

Nation's Business

A USEFUL LOOK AHEAD

FEBRUARY 1958



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Minimize your business risk PAGE 44

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Here's guide to upturn timing PAGE 42

There's one best way to ship

**suits
serums
silverware**

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The big difference is SPEED

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"For us, calling ahead is essential," says G. C. Pearce, branch manager, American Sterilizer Co.

"It's good business to telephone for out-of-town appointments"

"If we tried to operate without calling ahead for out-of-town appointments, we'd need twice the field force we have now—and it would cost twice as much."

So says G. C. Pearce, manager of the St. Paul branch of

the American Sterilizer Co.

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Call by Number. It's Twice as Fast.



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<i>For example:</i>	First 3 Minutes	Each Added Minute
New York to New Haven	45¢	15¢
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Seattle to San Francisco	\$1.40	40¢
Indianapolis to Phoenix	\$2.05	55¢

Add 10% Federal Excise Tax

Nation's Business

February 1958 Vol. 46 No. 2

Published by the Chamber of Commerce of the United States
Washington, D.C.

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Before the budget was presented the President outlined the nation's first need. Spending alone will not provide for it

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The Scotsman, America's lowest-priced, full-sized 4-door sedan.



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Where pride of Workmanship comes first!



Says Ralph F. Lafferty, Executive Vice President of ZEBCO Co., Tulsa, Okla.

"Music by Muzak Has Increased Our Production 10 to 13%..."



One of the assembly areas in the ZEBCO plant, where "music by MUZAK" helps relieve tension and fatigue.



WHAT can management do when Worker Tension begins to slow down production? Is there any way to combat the fatigue and boredom caused by monotonous manual or clerical chores? ZEBCO, the world's largest manufacturer of enclosed type, spin-cast fishing reels, found the answer in MUZAK. Ralph F. Lafferty, Executive Vice President of

ZEBCO, reports:

"Music by MUZAK increased our production 10 to 13%. From the very first day MUZAK was installed, one could begin to see the increase in production. Employees are more relaxed and cheerful. This is reflected in general high plant morale, as well as in the excellent production reports." (On this page you will see actual ZEBCO Company work tickets, which show the increases in unit production figures effected by MUZAK.)

An Indispensable Tool of Modern Management

Like air conditioning, sound-proofing, fluorescent lighting, "music by MUZAK" has won a permanent place as a tool of modern management. It pays its way many times over in increased efficiency and productivity. Typical of many such results, it has . . .

- Increased production 20% in the drafting department of the Fischer Lime and Cement Company of Memphis, resulting in savings of \$300 to \$400 a month in one department alone.
- Increased production 9% and decreased absenteeism 7% for the Loft Candy Company of Long Island City.
- Reduced clerical errors in the auditing department of the City National Bank & Trust Company of Kansas City, by 11%.
- Increased production 5% and decreased absenteeism 5% for the National Gypsum Company of Buffalo.
- Increased output per operator in the work clothes plant of Bayly Manufacturing Company, of Denver, by 10%.
- Increased key punch production of the Mississippi Power & Light Company's IBM operators to an 11-year high — two months after it was installed.

Why MUZAK is So Different From ORDINARY "WORK MUSIC"

How can "just music" accomplish results like

these? The answer is simple. It can't! For MUZAK is not "just music." MUZAK has spent 20 years perfecting a scientific way to meet the minimum requirements for a successful work-music program.

YOU NEED A SPECIAL KIND OF MUSIC which is "heard but not listened to" — which stimulates people without distracting them. MUZAK has its own \$10,000,000 treasury of custom created non-distracting background music.

YOU NEED SCIENTIFIC PROGRAMMING to suit the time of day, place and type of work activity. Each MUZAK program is based on 20 years' study of the effects of music on people.

YOU NEED "CONTROLLED DYNAMICS" to penetrate noise barriers, mask out unwanted noise, without becoming distractingly loud — a technique which MUZAK has pioneered.

YOU NEED A COMPLETELY AUTOMATIC SYSTEM which avoids the cost of assigning personnel to purchase and store records or tapes, determine schedules, operate and maintain equipment. A flick of the switch starts MUZAK.

These are some of the reasons why upwards of 20,000 progressively managed companies are serviced by MUZAK, including 15 of the 17 top companies certified as "Best Managed" by the American Institute of Management . . . 11 of the 12 "Best Known Companies" . . . 40 of the 70 largest insurance companies. Why not find out what MUZAK can do for your company? Send for the free booklet described below.

. . . and here are actual ZEBCO Company work tickets, showing unit production figures before and after MUZAK.

FREE COPY

"An Answer to Worker Tension"

This interesting booklet explains how MUZAK lessens fatigue, reduces mistakes, cuts down idle talk, eases friction, and quickly repays more than its cost.

It shows the basic difference between MUZAK and other kinds of work-music. It charts, for instance, the effects of MUZAK upon the key-punch operators and verifier operators of one of the world's largest insurance companies.

It takes you inside the MUZAK system; shows how MUZAK creates, transmits and protects its \$10,000,000 treasury of especially programmed work-music. This booklet is yours for the asking. Simply mail the coupon and you will receive a copy without cost or obligation of any kind. MUZAK Corporation, Dept. 62, 229 Fourth Ave., New York 3, N. Y.

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Name Position

Company

Type of Business No. of Employees

Street

City & Zone State

☐ Check here for Architect specifications for new or remodelled buildings.

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do you take water for granted?

Most of us do. And once we could.

Water is our most inexpensive commodity. Once it was plentiful. But times change. Today our rapidly expanding population, industry and agriculture are straining water supplies to the danger point. We need more water badly and new reservoirs, dams and water systems to store and distribute it.

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management's WASHINGTON LETTER

►DON'T WRITE OFF possibility of tax revision this year.

Concern's mounting in capital over need to adjust inequities....to spark up faltering economy.

Congressional committee staff's studying ways, effects of various programs.

►GOVERNMENT CAN BRIGHTEN your business horizon by overhauling crazy-quilt national tax system.

Urgency for overhaul's expressed by Joel Barlow, tax specialist describing business viewpoint for National Chamber to House Ways, Means Committee.

Tax revision, Mr. Barlow says:

Will increase revenue, permit balanced budget, encourage achievement.

Current tax structure, he adds:

Eliminates incentive, slows economic momentum, discourages business growth.

Tax depreciation policy, Mr. Barlow says, hobbles U. S. economy, makes idle plants, creates antitrust problems.

He advocates lower tax rates for individuals, corporations, revision of depreciation schedules.

You can have details of this tax revision plan by writing Taxation Dep't., U. S. Chamber, 1615 H Street NW, Washington 6, D. C.

►ANXIETY ABOUT U. S. DEFENSES will permeate congressional action in weeks ahead.

This means major issues will be those with defense involvement.

Other issues will be put off.

Here's outlook:

Defense spending--increased allotments for missiles, more than asked for.

Labor legislation--look for action to tighten control of union pension funds, possible inclusion of criminal penalties for abuses.

Education--some action on federal subsidy of scholarships looms. But school construction aid is unlikely.

Foreign aid increase--the Administration will probably get less than it seeks.

Reciprocal trade agreements--act will probably be extended 1 year.

Minimum wage--action to extend coverage of \$1 an hour minimum to new groups of workers faces tough opposition.

Postal rates--observers predict an increase on first class to 4 cents.

Reactor program--powerful pressure for more federal funds for reactors.

Proponents of federal aid say private enterprise, private capital aren't moving fast enough.

Farms--not much action likely, bloc is split.

Social security--look for move to lower qualifying age for men.

Pre-merger notification--no action expected.

►WORKERS WILL FARE BETTER than industry in year ahead.

This view's held by Administration budget planners who look (hard) for:

Personal income to go up, corporate profits to remain even.

Opinion is that economy will be on upturn before midyear.

According to this view, you can look for personal income to reach \$1 billion a day rate by end of 1958.

Treasury's counting on personal income to rise to average \$352 billion, bring in \$38.5 billion taxes in year ahead.

Current year's estimate is for \$343 billion to bring in \$37.2 billion tax.

On business side, Treasury expects corporations to earn \$42 billion both years, pay \$20.4 billion tax.

Excise taxes in year ahead will come to \$9.3 billion, up from \$8.9 billion.

Other receipts of \$6.2 billion in year ahead will bring total budget receipts to \$74.4 billion.

Current year's estimate is for \$5.9 billion other receipts to bring total to \$72.4 billion.

This year's expected to end \$400 million in the red.

Next year will see a \$500 million surplus.

Economists in Washington view these estimates as optimistic.

Business has got to pick up, they say, or income totals will fall short.

Note: Some observers believe budget balance next year's in greater danger from higher expenditures than from receipts drop.

►FACTORS TO CONSIDER in assessing 1958 wage trends:

1. Bargaining--

More labor contracts in basic industries will be open for negotiation than in any recent year.

This increases chances of strikes.

Industries negotiating new wage agreements include aircraft, automobiles, farm implements, shipbuilding, shipping, glass, possibly soft coal.

2. Built-in increases--

About 4 million workers will get automatic raises previously promised under long-term contracts--which may affect bargaining situations.

More than half will get hourly raises in 7-9 cent range.

Industries include steel, aluminum, canning, copper, meat packing, railroads.

3. Unemployment--

Rising unemployment in first part of year will take some steam out of union demands for higher wages.

Workers seem more reluctant to strike for higher wages when jobs are not plentiful.

►WHAT'S TRUE STATUS of Soviet might?

Just-completed study made for U. S. Air Force provides some answers.

It concludes:

Soviet achievements in military production, industrialization have been substantial--but--

"Soviet bloc is still far from having preponderance of world military and economic superiority."

Study's based on data gathered during 3 decades, plus considerable information newly available.

It's by Soviet specialists of Foreign Manpower Research Office, Bureau of the Census.

Report disclaims representation of official position or policy--but is unbiased result of research.

It puts into calm perspective the current furor for gigantic national spending calculated to match supposed Russian performance.

NATION'S BUSINESS interviewed specialists who made the study.

Here are some highlights of their findings:

Study reveals mixed bag of achievements, failures.

On the positive side, Russian education is making great strides, with resulting

military, scientific benefit.

Soviet agriculture is faring poorly, urban problems are increasing steadily, living standards are lagging.

Study shows how labor productivity and capital use in Russia are major problems for communist leaders.

In short: Russia's a force to be reckoned with--but reckoned with on balance.

U. S. goals should be calculated on basis of America's future needs.

In this, communism is a factor--but not sole factor.

►DOES GOVERNMENT help to cause some of the problems it proposes to spend taxpayers' money to solve?

Look at these facts, judge for yourself:

Occupational Outlook Handbook, Bulletin No. 940, says:

About civil engineers--

"Persons who start training now or in the near future may be confronted with keen competition for jobs."

About electrical engineers--

"Good prospects for those already well trained."

"However, those completing training and those entering college will probably meet intense competition for jobs."

About chemical engineers--

"Expanding field, offering good employment prospects for those already trained or who will complete their training in immediate future."

"Competition will become increasingly keen as result of present record enrollments in engineering schools."

When did government publish this? 1949.

For what purpose?

To guide students, to provide "most current information concerning employment trends which should be of great value...in selection of courses to pursue."

What happened to engineering enrollments?

They plunged.

Total number studying engineering in 1949, including those working for advanced degrees, was 219,712.

Number dropped to 180,262 in 1950.

It fell again--to 165,637--following year.

management's WASHINGTON LETTER

Note: Government subsequently discovered new need for engineers, began advising students of this.

Following year number enrolled in engineering began climbing...number still going up.

►CUT THROUGH CONFUSION about status of U. S. engineering education.

What's important is how many are studying, working toward degrees.

Facts are these, findings of new government survey just finished:

Total U. S. engineering enrollment now is 297,077.

That's number studying in college and postgraduate levels.

Figure's up 20,000 from year ago, is up from:

243,390 two years ago.

214,414 three years ago.

193,333 four years ago.

176,549 five years ago.

And is nearly 80 per cent higher than 165,637 enrollment six years ago.

Fastest growth is number studying for first engineering degree.

That's up 84 per cent in six years.

Number working for master's degree is up 44 per cent in six years.

Number's now 24,136 compared to 22,529 year ago.

For doctor's degree in engineering:

Today's 4,180 is 45 per cent higher than 2,875 of six years ago, surpasses year ago's 3,402 by nearly 23 per cent.

How many graduate?

This trend is shown:

With 37,039 diplomas, last year's class had 17 per cent more degrees than previous class.

Figure's up from 27,672 two years ago.

►IS RUSSIAN EDUCATION superior?

Data revealed in Air Force study shows 96.6 per cent of Soviet primary grade teachers have only a 7-year education.

Because of this, because curricula unadapted to variations in ability, because of economic pressures to leave, Soviet failures and drop-out rates are very high.

For every 4 children promoted or graduated, 1 drops out or fails.

As one result, only a third of the industrial workmen have 7th grade education or more.

Only 1 in 5 Soviet farm workers has 5th grade education or higher.

Proportion with higher or technical education is 0.8 per cent.

Item: New Census Bureau data shows 7.5 million Americans are college graduates--2 million more than 1950.

Average American worker has 12 years of schooling.

►ARE AMERICAN YOUNGSTERS avoiding scientific studies?

Comprehensive study by U. S. Office of Education looks into this, compares enrollments with 8 years ago.

Total enrollment's up 29 per cent in public high schools. Here are enrollment changes for scientific subjects:

General science enrollment is up 41.3 per cent.

Biology, up 43.6 per cent.

Chemistry, up 26.2 per cent.

Physics, up 6.5 per cent.

Other science, up 71 per cent.

Elementary algebra, up 45.7 per cent.

Intermediate algebra, up 30.1.

General mathematics, up 50.2 per cent.

Plane geometry, up 31.6 per cent.

Solid geometry, up 70.2 per cent.

Trigonometry, up 83.5 per cent.

Other mathematics, up 202.2 per cent.

Another survey finding:

Some high schools don't offer advanced science or math courses.

About 100,000 high school seniors are enrolled in such schools.

►TRENDS: In consumer expectation studies, don't overlook consumer ability to buy goods, services.

With total personal income coming in at highest annual rate, you can expect consumption totals to reach new peaks in coming year.

Economists in Washington estimate personal consumption--now at \$283 billion annual rate--to climb to about \$290 billion by year's end.

- - -

Watch business capital investment for key to economic upturn.

Annual rate's now about 5 per cent below 1957 quarterly average.

If plans to expand drop significantly, it could signal really big trouble ahead.

Note: Current annual rate is \$35.5 billion.

"BOY,
I'M SURE
GLAD
I
INCREASED
MY
INSURANCE
TO
THE
FULL
VALUE
OF THE
BUILDING"



Would you sell your business building, furniture and fixtures for the amount of insurance you carry? No? Then you're not adequately protected in event of loss. The same applies to your home and household contents. To make sure you're up-to-date, call an agent representing one of the

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WHEN YOU BUY INSURANCE BUY INTEGRITY

Letters from businessmen

To get ideas across

May we have permission to reproduce the article "You Can Get Your Ideas Across"? We would like to distribute it to our management trainees.

ROY L. ROBESON
Assistant Vice President,
Manufacturers and Traders Trust Co.,
Buffalo, N. Y.

Your article "You Can Get Your Ideas Across" is most interesting as well as informative. I would like to obtain a reprint.

W. FLECK
Electronic Tube Division,
Westinghouse Electric Corporation,
Bath, N. Y.

Please forward six reprints of "You Can Get Your Ideas Across." Several people in our department found this article to be quite interesting and wish to pass its contents on to others.

PAUL L. HOLT
Merchandising Department,
Buick Motor Division,
General Motors Corporation,
Flint, Mich.

►A total of 562 requests for 9,708 reprints thus far for this December article.

Fits here . . .

In your article "Personal Selling Gets New Emphasis" you talked all the way around the insurance business without touching on it. It so happens we independent agents have a competitive problem which I think statistics will prove we are solving in a satisfactory measure by a co-ordinated advertising program between companies and agents, with both parties contributing. You will be able to see the results in dollar sales if you collect the statistics. In no other business is the personal touch so essential and in no other profession is service after the sale so important. Through the efforts of the companies and the agents themselves, the agent is rapidly reaching the position of a professional counsellor and is conducting himself on that plane.

FRANCES E. McMULLIN
Smith-Huening Agency,
Waterford, Wis.

. . . here, too

The article "Personal Selling Gets New Emphasis" was a vivid reminder of the sometimes subtle changes

that take place in merchandising. The fields of watches, jewelry, hardware and drug sales were emphasized, but mention of photographic selling was conspicuous by its absence. The article said "people will buy from (a specialty dealer) often overlooking a price differential . . . where they don't have knowledge of the product . . . in cases where operating troubles can develop . . . an item which the customer has to be shown how to operate . . . items where professional skill is needed for selection or maintenance. . ."

These are so obviously applicable to the photographic retailer and his service department that every photo dealer, repairman and manufacturer should examine the manner in which they fit his future merchandising plans. Throughout the entire, well organized article the implication that service is a vital part of the retailer's function is outstanding.

SAMUEL L. LOVE
Director,
National Camera Repair Schools,
Englewood, Colo.

Opinion on paradox

I have just read "Scientific Triumph of Russia Shows a Paradox in Education." In answer to some of the issues you have raised, I would like to point out that money is a primary factor in education. But first let us go into some of these other issues you mentioned.

In order to maintain a democratic form of government, everyone—or at least as many as possible—must be literate, have some knowledge of our history, be slightly familiar with economics, business, taxation, etc.; know how their government functions; how to take part in their government, and so on. We are a government "of the people, by the people, and for the people." Russia is not.

Now, what to do with the unqualified student? Trade schools like in Russia? We already have them . . . this is not the answer. A few learn valuable pre-trade skills, many just waste their time, the instructor's time and the taxpayer's money. It would have been better to keep some in a regular academic school and hope that some of the information soaks in.

Another problem—is a poor learn-



Atomic "Half Life" saves human life

helped by Air EXpress with extra-fast delivery!

This radioactive material has a rendezvous with fate. And it must not be late. Its power to diagnose or cure disease spans just a handful of hours, called a "half-life." Then, swiftly, its potency leaks away.

To forestall such danger, this peaceful atomic weapon must race the clock to a hospital, often thousands of miles away. And the vital responsibility for *on-time* delivery is entrusted to Air EXpress.

Jobs like this are all in a day's work for Air EXpress. And this same service is always at *your* service—no matter what you make. With Air EXpress, you can multiply your opportunities to sell *anywhere* in the country, because Air EXpress gives you 10,212 daily scheduled flights—plus fast pick-up with 13,500 trucks,

many radio controlled—plus a nationwide private wire system. Yet Air EXpress is inexpensive. For instance, a 15 lb. shipment from Chicago to New York costs only \$5.15 with Air EXpress—\$2.30 *less* than any other complete air shipping method. Explore all the facts. Call Air EXpress.

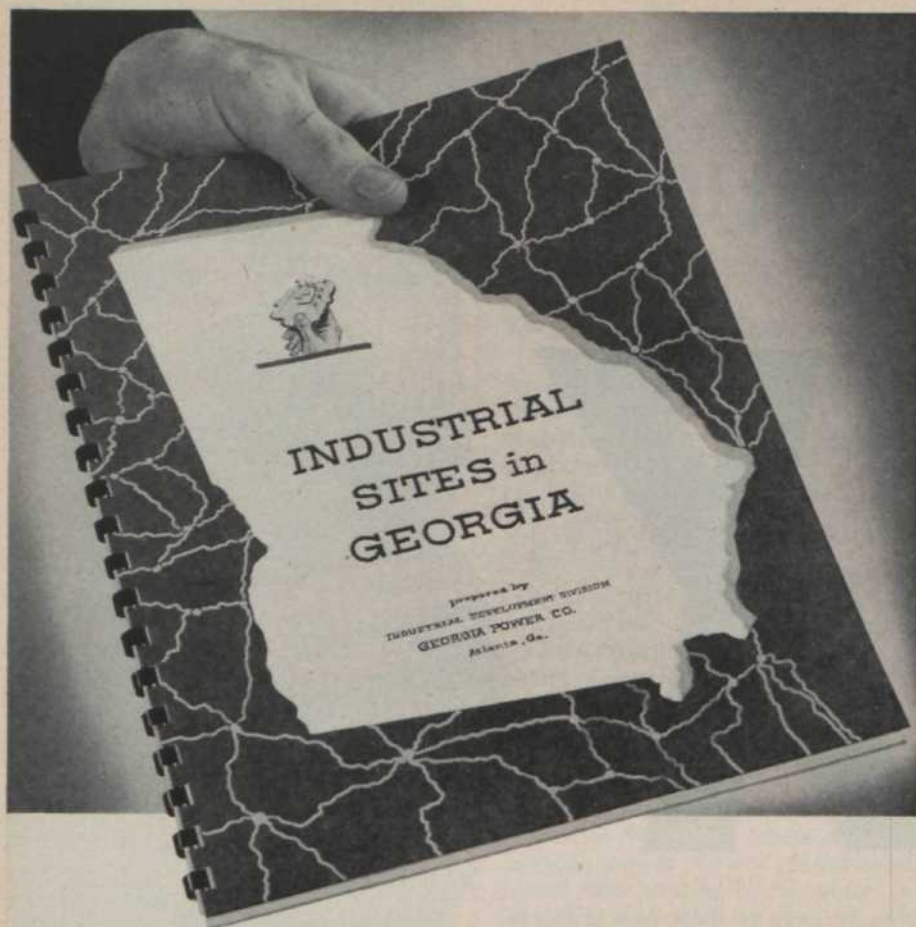
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E. A. YATES, Manager
Industrial Development Division
GEORGIA POWER COMPANY

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er really dumb? Not always. Many are really quite bright, but just have not found themselves yet.

FERNAND FEIG
Cass Technical High School,
Detroit, Mich.

I have read with interest your "State of the Nation" (on competition in education). I couldn't agree with you more completely — you stressed the same points I have heard from my husband for many years. He spoke with some authority; he taught science and mathematics for more than 42 years, in universities, junior college and high schools. It is to be hoped that thinking such as yours will prevail and that there can be a return to the thorough competitive education of 50 years ago.

MIRIAM R. FIELD
Sunnyslope, Ariz.

As a classroom teacher I am amazed that a layman (State of the Nation, January, by Felix Morley) can so accurately diagnose the debacle in elementary and secondary education. I agree with him that money alone will not solve the problem. The climate in which we are expected to do the teaching is frustrating to anyone who is trying to do a good job.

LEONARD H. MENN
Refugio, Tex.

►Felix Morley writes on education from an impressive background in the field; including teaching at St. John's College, Annapolis, Md., and the presidency of Haverford College, 1940-1945.

They'll grow, if tended

We would like to ask your permission to reprint "How To Develop Ideas," which would be useful to employees of the Fish Companies through our company magazine. We would like to compliment you on your excellent magazine.

HOWARD H. WALTERS
Fish Engineering Corporation,
Houston, Tex.

We were so interested in your excellent article "How To Develop Ideas" that we are requesting your permission to reprint it in *Advertising Age*.

MERLE KINGMAN
Senior Editor,
Advertising Age,
Chicago, Ill.

►Permission granted

Held on desk

I think *NATION'S BUSINESS* is one of the finest magazines published for American industry. Each time an issue reaches my desk, it is held until I have a chance to go over it thoroughly. You certainly are doing a great job for American industry.

E. R. COOMBS
Mechanization, Inc.,
Washington, D. C.

Can You Call a Man a "Failure" at Thirty?

Men who think that success is only a matter of "a few years" are failures . . . however young they are!

How often have you heard some young man in business say, "I'll admit the job I have now isn't much but, after all, I'm only in my twenties."

Or: "Just about every executive in the company I work for is between 45 and 65. I have plenty of time to get ahead."

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**WATCH
THIS ISSUE**

TVA seeks freer hand

Congress will decide this session on measures for public power expansion

REVIVED PRESSURES for expansion of the Tennessee Valley Authority face Congress this session.

Argument in the coming congressional debate will center around how free a hand TVA will be given in financing expansion and whether the agency will be allowed, in effect, to slide out from under the control of the lawmakers.

Action will begin in the House of Representatives. Last year the Senate passed and sent to the House a bill that would allow TVA to issue revenue bonds up to \$750 million at any one time and would permit the agency to expand its power service territory—from 80,000 to 192,000 square miles.

Under the Senate bill, the bonds which TVA would be authorized to issue would be outside the debt limit. They also would be free from Budget Bureau fiscal controls.

The Treasury would have no actual control over TVA financing, because the power agency could issue the bonds on its own authority. The Treasury could ask it to delay the offering but could not prevent it yet would be responsible for the bonds in case of default.

The Senate bill also frees the agency from the need of asking Congress for appropriations or for approval of expansion plans. By permitting the agency to issue revenue bonds, the requirement to repay taxpayers' investments out of revenue would be avoided. The issuance of revenue bonds to finance itself, opponents feel, sets a dangerous precedent for a government agency.

Although TVA would have to notify Congress of its intention to build plants, it could go ahead if Congress did not enact prohibitory legislation within 90 days. Under this clause, TVA could notify Congress toward the end of a session, when it would be practically impossible to get a bill passed. Since the bill

says merely that only \$750 million in bonds can be outstanding at one time, the agency could issue new bonds as fast as old ones were retired.

The House, also, was busy with a bill of its own during the first session of the Eighty-fifth Congress. The House bill, although similar to the Senate's, goes even further. It sets no limit on either the size of the TVA area or the amount of borrowing the agency can do.

The House bill, like the one from the Senate, says in several places that TVA shall not be subject to the "provisions . . . of any other law." This clause exempts the agency from the Corporation Control Act of 1945, which forbids any government agency from issuing bonds without Treasury approval. This gives TVA final and complete assurance that it is beyond legislative control.

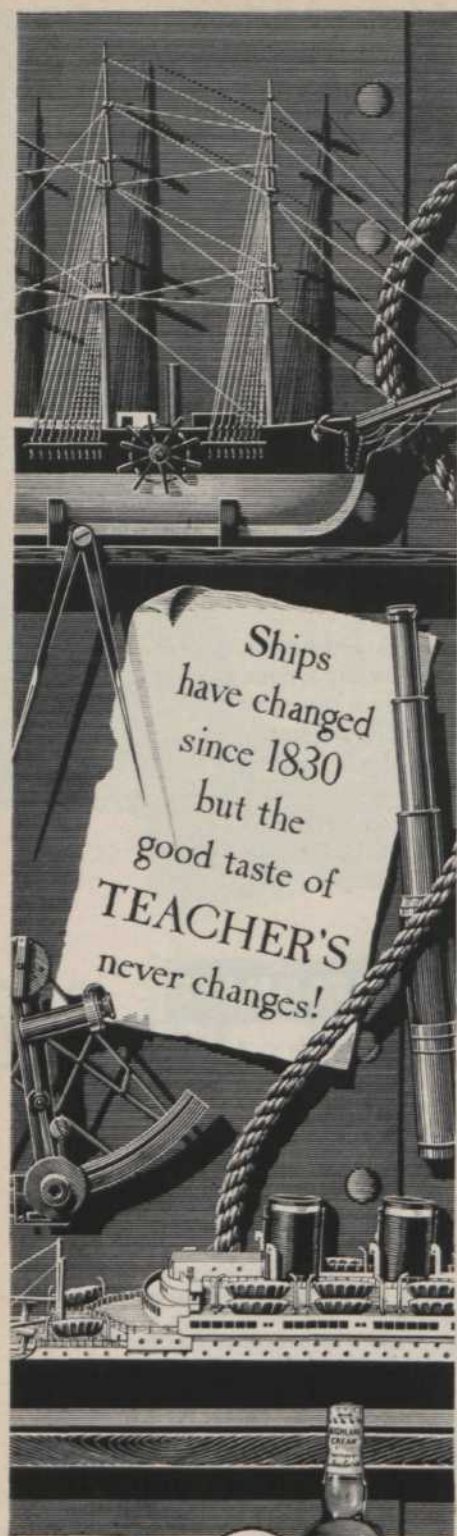
This bill, identical to proposed legislation introduced in the first session of the Eighty-fourth Congress, was approved last year by the House Committee on Public Works. The House Rules Committee is expected to report the bill to the floor for debate fairly early in this session.

The President in his fiscal 1959 budget message, recommended that TVA be allowed to issue revenue bonds but that Congress retain budgetary control.

Over and above the question of exactly how TVA expansion should be financed and who should control it, or hold the purse strings, is the basic one of government competition with private industry.

The U. S. Chamber of Commerce, one of many opponents of expanding government competition, points out that, "The concept that government should not compete with its citizens has been violated ever since TVA began to sell electricity. The situation became serious after TVA hydroelectric developments were completed

(continued on page 18)



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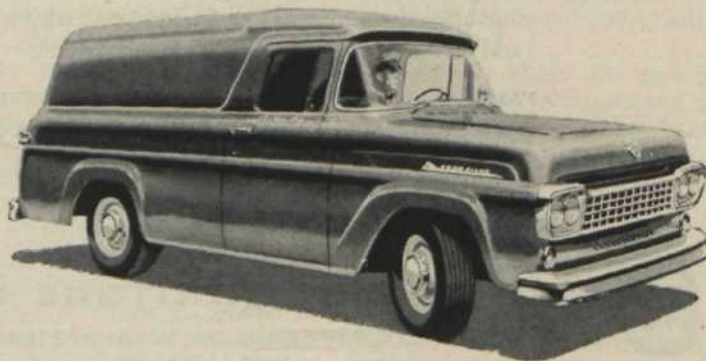


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FORD PARCEL DELIVERY CHASSIS (P-350 shown) are available in windshield-front-end or stripped-chassis models for your choice of modern custom-built bodies. Four P-Series chassis with GVW's up to 17,000 lb. for bodies with 250- to 525-cu. ft. capacities.



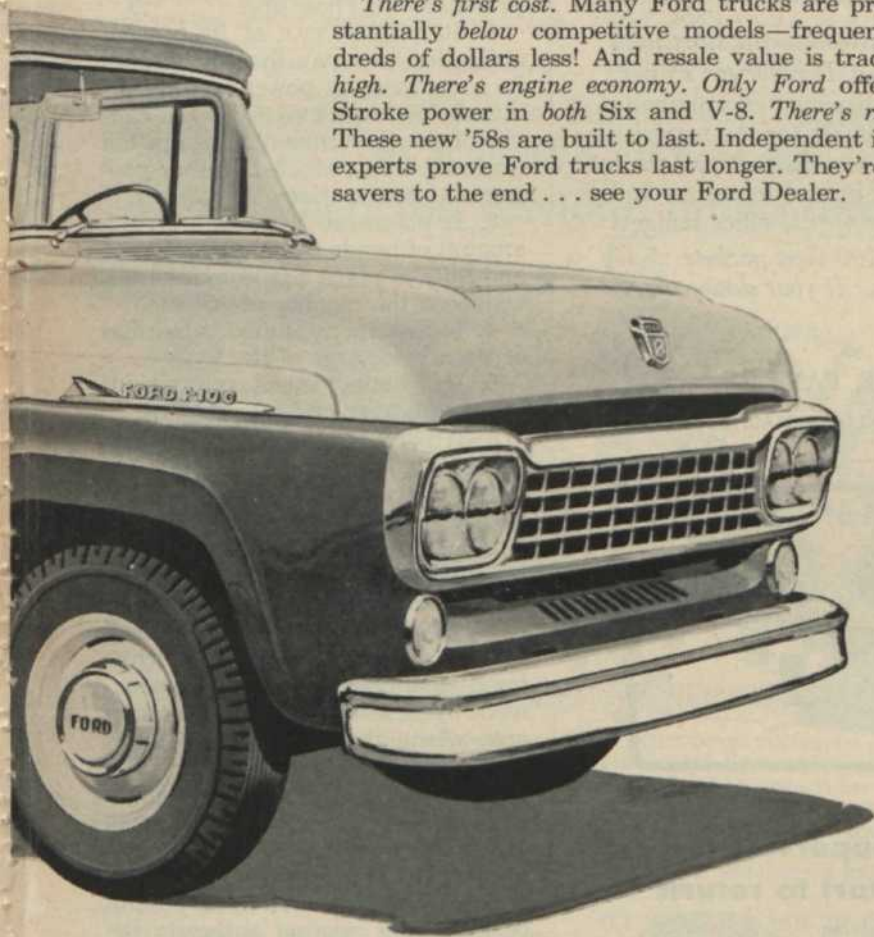
FORD F-100 CUSTOM PANEL features roomy, all-steel, fully lined body. A big 158 cubic feet of loadspace and wide rear door opening easily accommodates bulky articles. Its 110-inch wheelbase makes it highly maneuverable in traffic.

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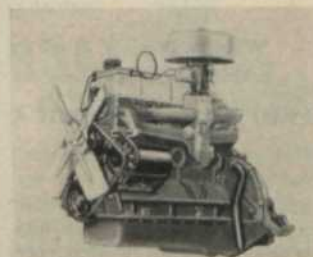
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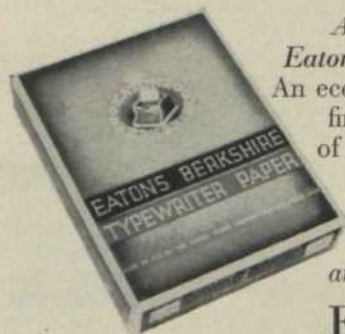


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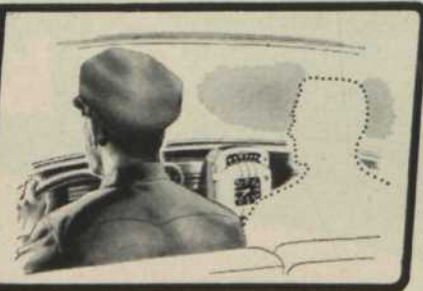
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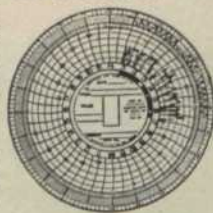


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TVA

continued

and TVA built its first large steam plant. Now more than half of its power capacity is in steam plants, and practically all of its expansion is in this type of generation. While imposing a complete monopoly on electric power in its area and forcing out practically all private power operations, TVA also takes away business which might otherwise be flowing through private-enterprise channels."

A minority report of the Public Works Committee listed six reasons for opposing the House bill in its present form. These are:

1. It relieves TVA of its present obligation to repay the government its investment in power facilities.

2. It removes TVA from the control of the Government Corporation Control Act to which all other government corporations are subject.

3. It places no limitation on the amount of bonds that may be issued and fails to place a reasonable limitation on the manner of issuance.

4. It permits unlimited expansion of the service area of the TVA.

5. It removes present congressional controls over TVA.

6. It places unlimited power in a small group of men.

In the course of debate on the Senate bill, Republican Sen. Arthur V. Watkins of Utah said the need for such a bill has not been successfully established.

He says the bill "proposes a radical new policy of approving revenue bond financing for federal government agencies to produce power, an area where the sky is literally the financial limit."

"In view of the tremendous expansion already made under existing authority, I feel that it is incumbent upon the Congress to assure itself that current expansion needs cannot be met from existing authority before we embark on a new program with an authorization broader than anything yet considered in the resource development field."

In the past, TVA has had to go to Congress and ask for appropriations. If the agency is allowed to do its own financing, one of the principal ways the legislative body has of controlling government agencies—through the purse strings—will no longer exist, opponents say.

Many congressmen, in talks with NATION'S BUSINESS, expressed the opinion that even if some form of expansion authority is granted TVA, nothing as free-handed as, especially, the House bill would be approved.

END

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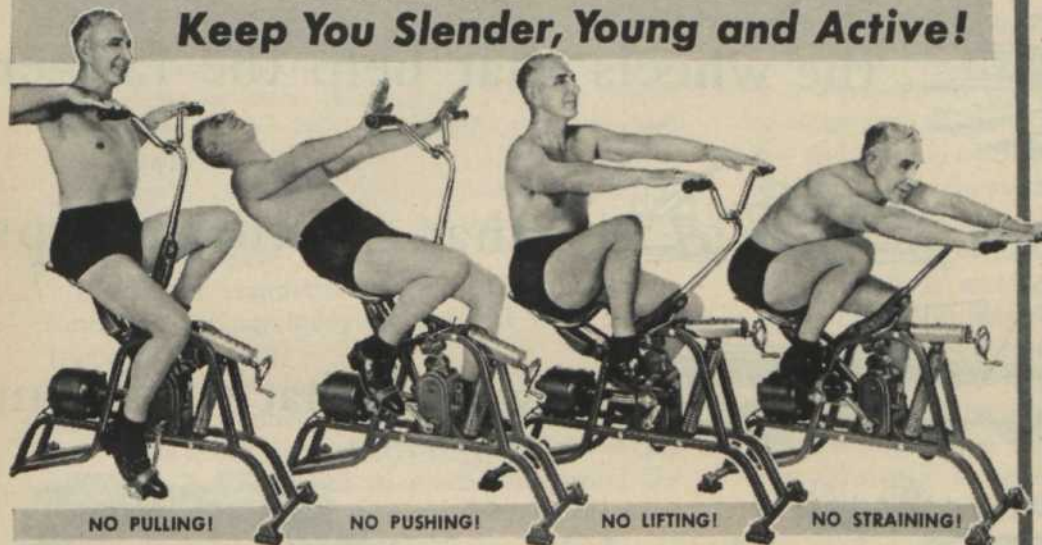
If years of sitting at a desk, or at the wheel, or

standing on your feet (and not enough daily exercise) has brought about *occupational stasis* (stagnation of blood circulation and body metabolism) causing you to now suffer from vague aches and pains in your back, legs or feet; from faulty digestion or elimination; from nervousness or sleeplessness; from breathlessness; from circulatory disorders; from lack of strength, pep and energy; from overweight; or from premature old age; then do as tens of thousands of men and women are doing: *take a short, daily automatic EXERCYCLE ride!* And remember this! No form of massage, vibrations or other artificial means of stimulation can compare with ACTION OF THE MAIN BODY MUSCLES in overcoming *occupational stasis*.

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Let's face it! The old-fashioned push-ups, chin-ups, sit-ups, knee-bends, body rotations and squatting exercises are too strenuous and too tiring (and often harmful), for men and women over 35 suffering from *occupational stasis*. And so are manual exercising devices which require a great deal of stamina to operate. (Remember! EXERCYCLE is not manually operated).

EXERCYCLE, on the other hand, manipulates and exercises every major body muscle in your legs, hips, arms, back, chest and abdominal region *simultaneously and automatically*, without manual effort on your part. A 30-minute EXERCYCLE ride—with all major muscles and joints engaged in smooth, gentle, rhythmic motion—is equivalent to hours of ordinary exercising. And when you are through, you are left rested, relaxed, refreshed, re-energized and invigorated, ready for work, play, a night of gayety or sound sleep... *because EXERCYCLE does the work!*

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Doctors tell you that *passive* muscle and joint manipulation, such as EXERCYCLE provides, will instantly speed up your circulation. The more blood per minute that circulates throughout your system, the better you'll feel, the younger you'll look, and the healthier you'll stay.

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IT'S NEVER TOO LATE TO FEEL YOUNG AGAIN!

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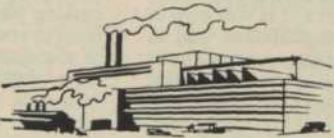
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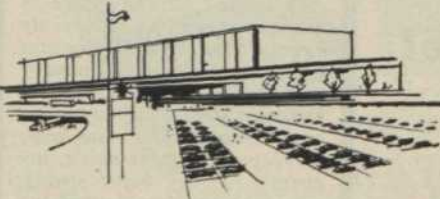
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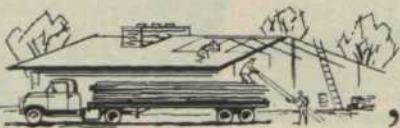
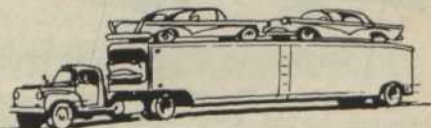
 to the factory , the wheels


that move the finished products  to the store

, the wheels that help the farmer

raise his crops , that get these crops

to market , the wheels that build your

home , that deliver 

and serve  your car, that go

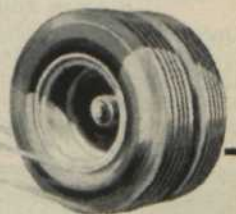
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THE WHEELS THAT GO EVERYWHERE



The state of the nation

U.S. security depends on assets which lavish spending can't buy

ONE OF THE less admirable of American characteristics is the belief that money can buy everything, including sputniks, friendship and love of learning.

This common misconception has a direct connection with democratic theory. Any society without a class or caste structure is for that reason fluid. Those with ability, character and ambition are not held back by humble birth or lack of breeding. They do not need a title, a bluebook listing or baronial ancestors to reach the top of the ladder in any chosen line.

But in the competitive upward climb access to funds at the psychological moment may be extremely important.

Thus arises an emphasis on the "Almighty Dollar" more pronounced than in an aristocratic system. Thus arises the distinctively American saying that so-and-so is worth so much, measuring the value of the individual solely in terms of his monetary resources.

We all know better. We know that, despite its utility, money will not of itself make a happy marriage, guarantee good health, bring peace of mind, create an appreciation of beauty nor even lure fish to the millionaire's hook, as that most competent angler, Isaak Walton, noted long ago.

And even in its limited field of purchase we know that the value of money is contingent upon careful use.

The man who squanders his money is never, for that reason, held in high repute. If a wastrel is in control in any line of business he is unlikely to hold executive office long. Only in the case of government, though it, too, is supposed to be a responsible organization, is a clearly unproductive spending policy regarded with a tolerance hard to justify on any reasonable basis.

At a time when tax reduction is the most imperative need of a dynamic economy the Congress finds itself confronted with budgetary requests that by any traditional measurement can only be called fantastically inflated. The explanation is

that there is nothing traditional about the unusual jeopardy in which the country finds itself as a result of Russia's surge ahead in one aspect of military power.

There is danger, however, that we may lose our earlier advantage in matters more fundamental than rocket-fired missiles. From regarding communism and all its works with undue contempt, the national mood has now swung to one of ill-concealed apprehension. To meet the communist challenge, one hears, all thought of governmental economy must be dismissed. Only the most lavish spending, it is asserted, can swing the balance back and restore security.

Without self-control, which is on the list of things that money will not buy, there can be no security. So the recovery of that national asset is our first imperative. Whether the military threat to our country is as serious as alleged is a question on which few laymen are competent to speak. But,

By Felix Morley



FRED J. MARCON

TRENDS

even assuming the reality of all the dangers visualized in half-disclosed secret reports, it is doubtful that hastily concocted spending programs will avert them.

What is not doubtful is that ever since the communists seized power in Russia, 40 years ago, their challenge has been political, social and economic rather than military.

During the last war we failed utterly to realize that to the Kremlin the defeat of Hitler was secondary to the undermining of American capitalism. It may be hoped that we shall not now play Moscow's game again. But there was an ominous note in the flood of dubiously consoling New Year predictions, such as "Stepped-up defense expenditures will make 1958 another good business year." A free economy that must turn to government contracts for oxygen is already far gone toward tax strangulation.

The former Secretary of Defense, Charles E. Wilson, was quoted recently as saying that the budget should have proposed \$40 billion for military spending during the current fiscal year, instead of the \$38.5 billion actually requested from Congress.

The implication was that we fell behind because of this Budget Bureau pressure for economy. One cannot believe that Mr. Wilson reasoned so when he was a leader in competitive enterprise. It is too much like saying that to pay \$40 for a pair of tires will insure a successful week-end trip, while to shop around for a comparable pair at \$38.50 would be to invite disaster.

The determinant between success and failure is not so much found in the amount of money spent, but rather in the efficiency of the financial management. This is true in every household and every business.

So it is recognized by the American people as applicable to their national government, in spite of alibis in high places. Soon after the sputniks soared aloft a Gallup poll asked where the blame should be placed "for letting the Russians get ahead of us in developing rockets and missiles." Of the seven major reasons cited, "cutback in defense budget" ranked a poor fourth. Dishonorable first place went to "our leaders in Washington," followed closely by "interservice rivalry and poor management of rocket program." These are, of course, off-the-cuff opinions. But they reflect a deep skepticism as to the automatic effectiveness of upping defense outlays.

Doubt as to effective results from increased spending in the field of foreign aid is even more pronounced. The more this policy is shifted from

an emergency to a permanent basis the more questionable it becomes. It is noted that Great Britain, our largest beneficiary, reduced its income tax last year and promises to do so again this spring. The money lavished on Tito to bolster his avowedly communistic regime is the sharpest irritant. His agreements in NATO show that our continuous subsidies to allied governments do not serve to make even these fully appreciative of the State Department's wisdom.

Yet Secretary Dulles draws the strange conclusion that we can purchase friendship by bidding ever higher with our taxpayers' money.

Public education is still another field in which a causal relationship between lavish spending and useful results is unjustifiably assumed. During the past half-century, Treasury grants to local schools have mounted astronomically, from little over \$3 million in 1905 to more than \$3 billion in 1955. Nobody can even pretend that this manifold increase in federal spending has brought a proportionate improvement in public instruction.

On the contrary, the greater the subsidy from Washington, the poorer the quality of the schooling has become.

Yet it is now assumed that we can remedy our scientific deficiencies merely by laying more billions on the educational assembly line.

Not many of us believe in the theory of "the hair of the dog that bit me." But the reasoning of the alcoholic who drinks to dispel a hangover is all too similar to that of those who argue that the inefficiency inseparable from enormous governmental operations can be eliminated by making them even more enormous.

This is an election year, during which Congress is always receptive to the voices from home. The Administration, as shown by the Presidential messages, has decided that record-breaking expenditures are the best way to confront the situation in which the country finds itself.

The argument that we have fallen behind because of bureaucratic mismanagement, rather than because of inadequate spending, is largely ignored in Washington in spite of the President's reference to it in his State of the Union Message.

But it is not overlooked at the grass roots, where the personal experience of every responsible citizen is that efficiency is often aided, rather than hampered, by economy. Away from the big cities the belief that money will buy everything is not so strong.

Back home a great many questions will be asked about the budgetary proposals for the coming fiscal year. And the congressmen who press those questions most resolutely stand to be remembered most favorably at the polls.



“How twenty-five friends and one stranger kept me in business”

told by Les Christiansen



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“Some fires die hard. The firemen had to pump water into our auto parts store a full four hours. As a result, less than a third of our \$50,000 inventory was salvaged.

“Things could have been even worse if we hadn’t partially heeded our Hardware Mutuals salesman’s advice to increase our fire protection.

“Normally, it might have taken a month to check our inventory... weeks with our business at a profitless standstill. Instead, our friends—25 neighbors—pitched in to help sort the stock. And we’ll never forget the Hardware Mutuals claims man! A total stranger, he worked right along with us, advising us, showing us short cuts. The last night he stayed past eleven o’clock and drove home through a blizzard.



Seal of Security

Next day he returned with our check for the full \$30,000 limit of our fire policy.

“This experience taught us the importance of an adequate program of protection planned by an expertly trained insurance specialist.”

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No two claims are ever exactly alike. And no two businesses require the same insurance protection. That’s why Hardware Mutuals representatives spend so much time analyzing each case. Group insurance... fire... theft... workmen’s compensation... business interruption protection... whatever protection package your Hardware Mutuals man recommends, you can be sure it’s the right package at the lowest possible cost.

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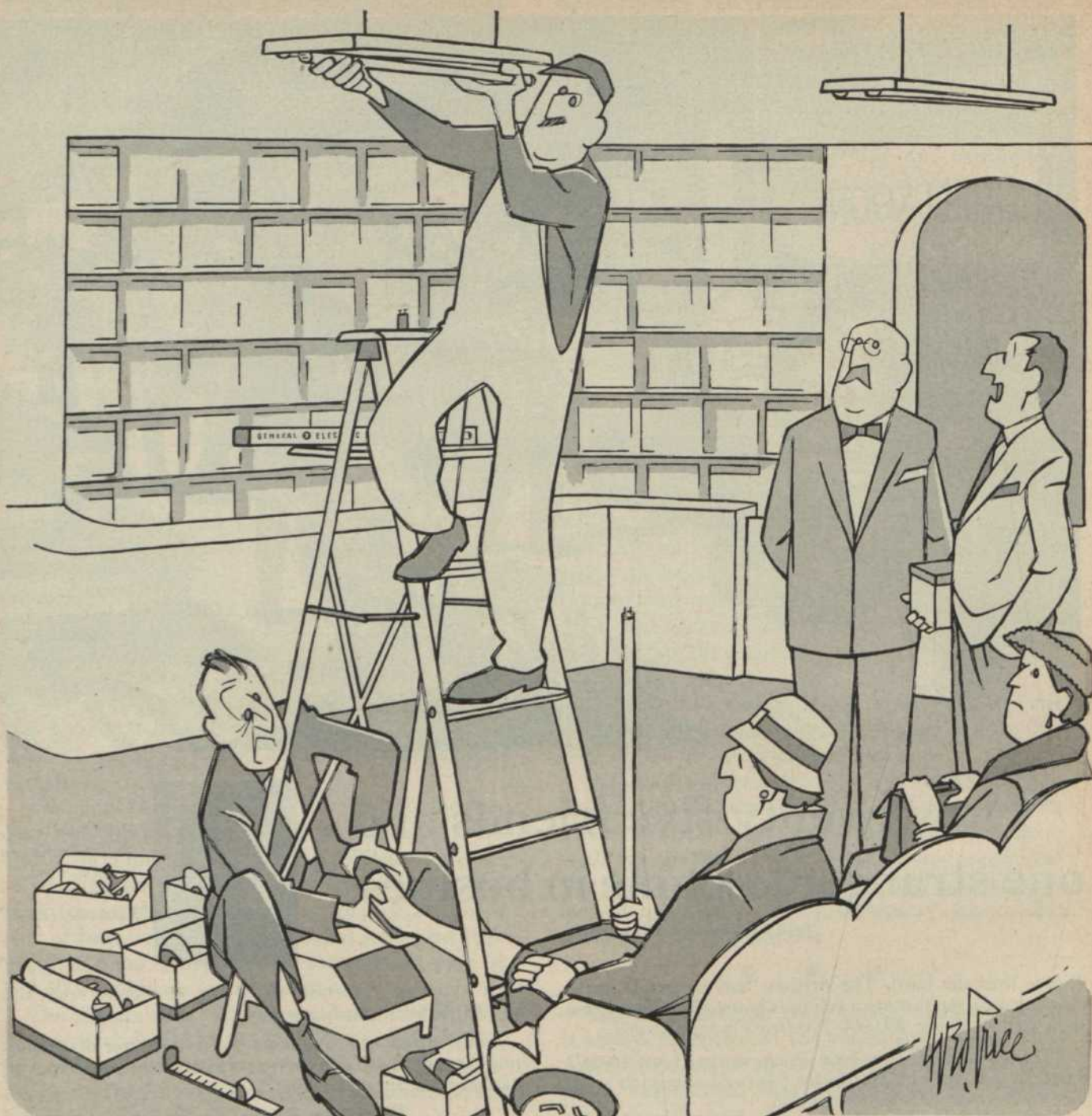
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Washington mood

Two factors delay—but won't prevent—political rows in Congress

THERE ARE TIMES, the professionals say, when the best politics is no politics at all. In the opinion of the two Texas Democrats who dominate Congress—Sen. Lyndon Johnson and Speaker Sam Rayburn—this is such a time; and if they are able to prevail, there will be a political cease-fire here in Washington for a while.

However, it will only be for a while. This is an election year, when 435 House seats and 32 of the 96 Senate seats will be at stake. The Democrats have high hopes of adding to their majorities in Congress in November, and also of taking it all—the Presidency along with Congress—in 1960. They can hardly be expected, therefore, to remain nonpolitical indefinitely.

Sometime in the months ahead—maybe in the spring, maybe later—an old-fashioned bombardment may be expected. The target will be Dwight D. Eisenhower, in his dual role of President and leader of the Republican Party.

But at the moment responsible Democrats are advising a sort of truce, and telling their colleagues: "Look out for the country first, or you won't get a chance to do anything for the Democratic Party."

They want to see Congress get on with the job of appropriating money and doing whatever else is necessary to put the United States abreast or ahead of Russia in the missiles race. They rightly sense that the American voters will accept no less.

The truce was working beautifully on Jan. 9, when President Eisenhower delivered his State of the Union message before a joint session. Looking down from the press gallery, it was hard to tell Democrats from Republicans, for all rose to cheer the soldier-statesman as he strode into the House chamber, pink-faced and smiling. The Democrats, a good many of them, at least, also were generous afterwards in praising the President's address.

It was generally agreed that the President had passed a critical test, and had come up with a program that ought to meet the Russian space-age.

Yet, even as they praised his State of the Union

message, many Democrats retained the feeling that he had fallen down on the job of President. It is doubtful now that anything he does in the future will change their minds about that. They have what amounts to a conviction that he hasn't kept the store—that he has delegated too many of his chores, failed to keep on top of his job, and allowed the United States to fall into a humiliating second place where it is trying desperately to catch up to Russia in the satellite-missiles race.

Added to this feeling are the grievances that inevitably pile up against a man who has been in the White House for five years. The President's new budget, shorn as it is of items and projects that would make votes, has angered many of the lawmakers, just as he knew it would. Then, of course, there is the animosity that the President aroused among Southern members by his action in Little Rock in September.

In the President's first term, there were a num-

By Edward T. Folliard



ARTHUR J. ELLIS

TRENDS

ber of so-called Eisenhower Democrats in Congress. Today there are none. This would seem to mean that there has been a change in sentiment among the folks at home, at least in some regions. The Democrats, having talked to the voters during the four-months recess, say that there certainly has been a change, and that President Eisenhower's prestige has been badly dented. As they put it, "His halo has slipped."

• • •

It is no longer considered politically dangerous to lambaste the President, and once they decide that the time is right, the Democrats will do just that. But why, it may be asked, should they bother, since Mr. Eisenhower is barred by the Constitution from running for a third term?

The answer is that the Democrats are out to discredit the Republican Party, and they believe that they can best do it by discrediting the leader of that party. If they can make President Eisenhower out to be a failure, it will follow that the G.O.P. also is a failure.

In 1952 the Republicans had the same idea with respect to the Democratic Party and President Harry S. Truman. Mr. Truman was not a candidate for reelection that year. Nevertheless, he was much more of a target than was Adlai Stevenson. General Eisenhower and other Republican orators went after the Missourian for a variety of political sins, all summed up in a word: "mess."

This drumfire, which really began in 1950, was highly effective.

The Democrats are certainly no more noble, no more patriotic than the Republicans. Still, some of them are reluctant to do anything or say anything that would hurt President Eisenhower in his role as the most influential leader in the West. At least, they are reluctant as of now.

Senator Johnson is as politically minded as any man on Capitol Hill. But at the moment he is the most eloquent of all Democrats in urging a moratorium on politics. He doesn't ask merely for a bipartisan approach to the problems of the day, but for a "nonpartisan" approach.

"I think all of us remember the day after Pearl Harbor," the Senator told his colleagues just before this session started. "There were no internationalists and no isolationists; no Republicans and no Democrats. There were just plain Americans eager to get at the job. We now face a situation which in some respects is comparable to a Pearl Harbor."

Senator Johnson was in the forefront of those applauding President Eisenhower when he delivered his State of the Union message. The Texan was especially ardent in his approval of the Presi-

dent's expressed hope for true peace in the world. This pointed up something that was for me the most remarkable aspect of that joint session. The lawmakers had assembled to hear the President tell about the billions that would be spent for missiles and other weapons of war. However, they gave their loudest applause to this passage in his address:

"We will always go the extra mile with anyone on earth if it will bring us nearer a genuine peace."

The prolonged handclapping that this evoked was more than an expression of America's longing for tranquility in the world. It indicated a new respect for Russia's brilliant progress in the field of science and technology.

President Eisenhower has now told Russian Premier Nikolai Bulganin that he is ready for a new top-level conference—on condition that preliminary spadework gives promise of success.

He really had no choice but to agree to such a meeting. Khrushchev, Bulganin & Co., had been running rings around the United States in the propaganda war, making it appear that the Eisenhower Administration was a hold-out from the Russian-led crusade for an easing of tension. Our NATO allies were clamoring for a get-together with the Russians.

• • •

Will anything come of a new meeting at the summit, assuming that there is to be one?

In considering an answer, it might be best to go back to the spring of 1955 when President Eisenhower was thinking about going to Geneva. He honestly believed then that there was a good chance to reach a disarmament agreement with the Russians.

Secretary of State John Foster Dulles did not share the President's optimism. He was right; Geneva was a flop so far as results were concerned.

Secretary Dulles has no more faith in Russia's sincerity now than he had then.

This much seems certain: If President Eisenhower does meet with the Russian leaders again, there will be no build-up of illusions such as preceded Geneva. It is even likely that the President would warn Americans against soaring hopes. He seemed to be doing that, in fact, when he told Premier Bulganin in a letter on Jan. 12:

"High-level meetings, in which we both participate, create great expectations and for that reason involve a danger of disillusionment, dejection and increased distrust if in fact the meetings are ill-prepared, if they evade the root causes of danger, if they are used primarily for propaganda, or if agreements arrived at are not fulfilled."

That was why he laid down the condition that any summit meeting be preceded by conferences among ambassadors and foreign ministers to determine whether there really is good will and areas of agreement.

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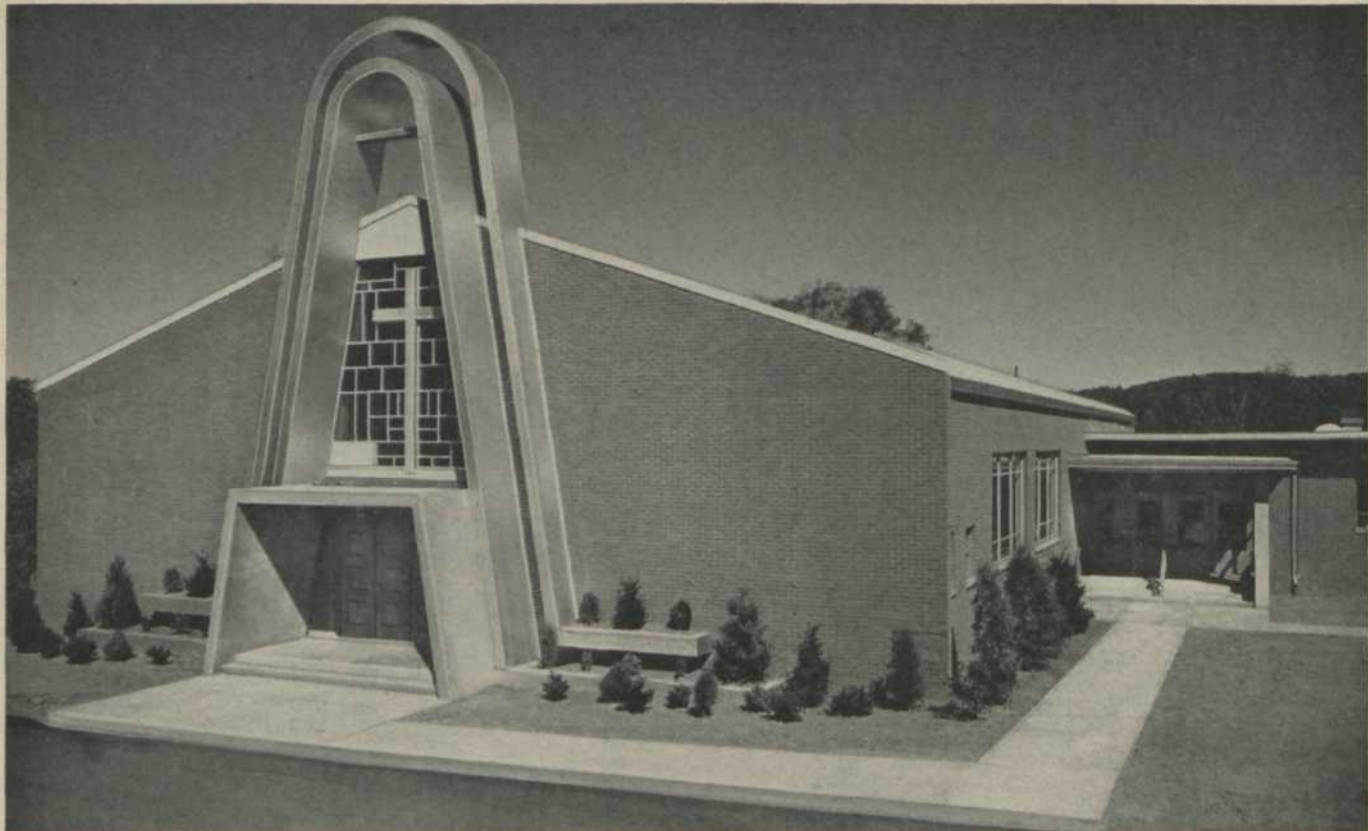
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WHERE RUSSIAN SCIENCE LAGS

Missile overemphasis could cripple our ability to wage biological, psychological or sociological war

**A Nation's Business interview with
Dr. Ralph W. Gerard,
noted American biologist**

Dr. Gerard, how does science in Russia and in the western nations compare today?

I have no reason to question the statements that, in physical science and technology, Russia is abreast or perhaps somewhat ahead of us. But this is only a small part of any scientific race.

In psychology and other social sciences—which, with biology, constitute the behavioral sciences—Russia is far from being ahead. In fact, the shoe is very much on the other foot.

It would be a bad thing if, in our hysteria over Sputnik, we became so enamored of hardware and physical sciences that we neglected those other fields and fall behind in them.

Do you feel that we can overemphasize rocketry, for instance, or the need for engineers?

Either for war or for peace. Certainly as far as peace is concerned, rocketry is a small part of the business of living. It will be fine to have nuclear power for pro-

pulsion, high speed travel, and so on. But peace is a matter of human beings living together; how they interact. We must solve the problems of how groups work together; of why families break up, of juvenile delinquency. This is mental health in the broadest sense; mental dis-health or disease involves all the ways in which people are unhappy individually or collectively. War is one of the symptoms of disease in human relations.

The good things in life are really not just more upholstery on the living room furniture, but what goes through your mind—music, or art, or great ideas. To these, the physical sciences contribute, of course, but not disproportionately.

Even in war there is only one objective. This isn't to kill the enemy, or destroy his property—such results are undesirable. The only objective of war is to get the other fellow to do your will.

If you can get him to change his mind, so he behaves in the way you want, without destroying his



ROBERT BENYAS—BLACK STAR

WHERE RUSSIAN SCIENCE LAGS

valuables or him, you are better off. At the lowest level, this gives booty and slaves. If your motives are more noble, say just to prevent hurt to yourself, again you don't want to hurt him.

Brute force is the oldest and most primitive means of influence, but other means have evolved and are superior. Man hunts lions and tames elephants, not the reverse. Men of brawn rarely control men of brains.

The way to win a war, or to prevent one, or to influence Russia or anyone else is not to beat them up. Language is still the great human cement. And if conflict comes, there are psychological warfare, sociological warfare, biological warfare. Suppose a people was put to sleep by some kind of nerve gas, or made docile by a tranquilizer, or even deprived of food by fungus or bacterial destruction of their crops. Would this not win a war, and be better than city-busters? And what of turmoil and revolt within an enemy country? We have seen this used often enough for cheap victories.

How far would you say that Russia is behind us in nonphysical sciences?

Let me give you this kind of background. When I was in Russia in 1936 they had no effective science. They had killed off or exiled their scientists because they were intellectuals. Lack of scientific knowledge itself isn't so bad; it can be corrected by reading what others have done. But the young scientists didn't have the scientific feel of what constitutes good evidence or when experiments are to be trusted. As a result a great generation grew up almost undisciplined. I was told there were 25,000 scientists in Moscow at that

time. But mostly they were 25,000 people trying to do science, and the science was pretty shabby.

The consequences of this are not all bad. With fresh minds unchanneled, many will strike out in new, imaginative directions so we are likely to come up with important treasure. This happened in several places after World War II. The Russians did some highly original work on the nervous system, for example, in the '20's and '30's.

But mostly such a great outpouring of undisciplined effort gives little wheat and much chaff. In physiology, many bold reports did not stand close examination. In genetics, an outstanding geneticist turned up.

But so did Lysenko, who was supported politically, and Russian genetics and botany were then greatly retarded.

Does bureaucratic control still hamper Russian scientists?

May I answer that with a concrete episode from an international conference on the nervous system called in Prague in 1956 by the Czech Academy of Science. Reports involved physiology, biochemistry, pharmacology, some anatomy, some industrial biology, some medicine.

About a dozen scientists were there from the western countries and maybe two dozen from the Iron Curtain countries—China, Poland, Hungary, East Germany and Russia, plus more than 100 Czechs.

One Czech speaker said that Pavlov's views on a particular topic proved to be somewhat in error. As soon as he finished, the leader of the Russian group argued at length why Pavlov was entirely right. I sat just across the aisle and slid over a note which said

DR. RALPH W. GERARD is one of a special committee of scientists formed at the request of Vice President Richard M. Nixon to advise him and Dr. James R. Killian, Jr., special presidential assistant for science, on the role of the behavioral sciences in national affairs.

Dr. Gerard is professor of neurophysiology in the Mental Health Research Institute of the University of Michigan. A former president of the American Physiological Society (1951-52), he has served the government of the United States in a number of important capacities, including the chairmanship of the physiological advisory panel, Office of Naval Research. He directed special war research from 1941 until 1946.

in effect: "Russians seem to feel that Pavlov has to be immaculately correct in everything he ever said or did. We all recognize Pavlov as one of the very great scientists. But, in any science, if 50 years do not show many ways in which the master was wrong, it hasn't advanced much.

"Do you really believe Pavlov was unique or is this attitude due to political pressure?"

He said, "We must talk about this." Next day, not by pre-arrangement, he and I sat next to each other at luncheon and I reopened the subject. The Russian in effect denied any overconcern about Pavlov, or any politics in science. A Czech, a Pole, a Hungarian and a Chinese, leaders in their respective countries, were also at the table. Not one said a word, then, but in the course of a ten minute walk back to our meeting each of those four men managed an opportunity to walk with me and, when not near others, said approximately, "Of course you are right about this and it's good you said so!" Not one opened his mouth in the presence of the Russian scientist.

Perhaps this gives you some answer as to freedom. This was after the 20th party Congress at which Stalin was de-pedestaled and everything was presumably free and open. Clearly, politics and science were not unmixed.

Would you say that today they are still mixed?

After the Hungarian revolt, which followed that fall, I presume the pressure is stronger than ever. One of the men I talked with in Prague said there were two feelings about the relaxation by the Russians. Most people felt that the intellectual terror (if I can call it that) was over. Others said: "Take care;

this is one way the rulers can find out who is really with them and who is displeased with things."

Political control does not seem to have hampered the physical sciences in Russia?

No. The outstanding Russian-born physicist Kapitza was kidnapped from England a long time ago; many of the best German physicists and engineers were grabbed at the end of World War II, and Russia has certainly put great effort and resources into training its young men in these fields.

But I don't think Soviet scientists can go on indefinitely doing the bidding of a political bureaucracy. I don't think any scientist can go on. We have, unfortunately, seen what occurs, in our own country. One of two things will happen—either the man stops being a scientist, or he stops going on. Science cannot be directed toward specified conclusions. It is possible, of course, to focus effort in certain directions, to say, "I don't know what I will find, but I will search in this place," and still be a scientist. But you can't look somewhere and say, "This is what I will find," and be a scientist.

To the extent that science is heavily dominated by bureaucracy it is bound to suffer, but I must say that Russia has done better than I thought it would in many of these areas. They have made tremendous strides, perhaps because of the great financial and other resources poured into science, especially physics.

At the Prague Conference, however, papers presented by most of the Iron Curtain scientists—I say "most" because one or two were quite good—were not of high quality. They didn't describe the experimental techniques, they didn't give precise statements of their findings, and in general the reports did not inspire confidence.

Some young Czechs spoke to me or others in amazement after hearing East and West talk. "This is an eye-opener to us," was their theme. "For 10 years we have been told that western science was of no interest and no quality and we find that it is just the other way around. The West is where good science seems to be."

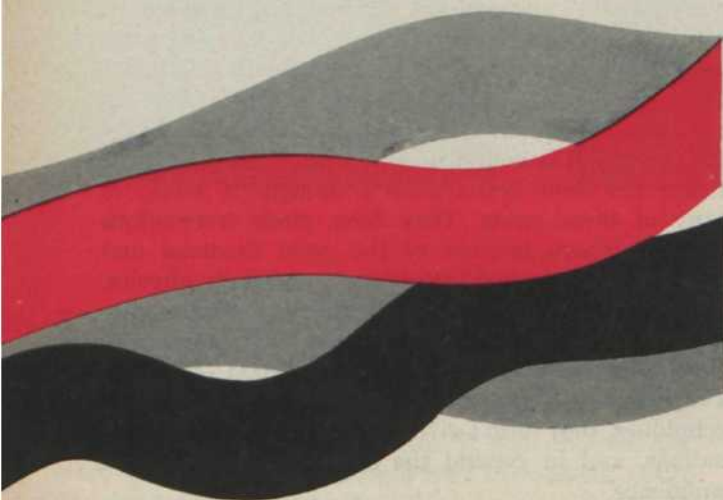
One of the leading practitioners in a Soviet satellite country told me that the doctors from Russia sometimes came to get his advice, and that they did not know much medicine.

About a month ago a psychologist who speaks Russian and had just come back from that country gave some of us a detailed report. What he said about other behavioral science in Russia—psychology, sociology, anthropology—was even more pointed than I have said about biology. They have done nothing serious in behavioral science. In a thought-controlled country it would be extraordinarily difficult to work in this field. It's hard enough in this country; one runs afoul of all kinds of prejudices.

Doesn't sending animals into space require some physiological skill?

I am not aware of any very special or new problems involved. Our Air Force and other military units have been doing extensive research on acceleration, temperature extremes, protective clothing, boredom, and the like. Actually, the Russians have a great body of workers and great exploratory (*continued on page 74*)

Why economic growth is uneven



Ability to recognize the true nature of growth will mean ample rewards to business

GROWTH IS BASIC to our economic life and we intend to keep it that way.

But our very preoccupation with growth sometimes makes us inclined to overlook the nature of growth—what it really is and what it may mean to any specific industry, company or employes.

The businessmen who can anticipate the nature of growth will be amply rewarded.

That anticipation will be facilitated if five points are kept in mind:

- ▶ Growth tends to be erratic, pulsing, not steady.
- ▶ Fast growth may mean low profits to investors.
- ▶ Changes in rate of growth, rather than growth itself, alter demands on industry.

▶ Growth comes from two basically different types of markets.

▶ Pricing is difficult in a growing industry.

Pattern is erratic. Because economic growth involves people, the desires of the market place cannot be foretold perfectly. Neither can the capacity needed to take care of the market.

So at times too much of some things will be produced; growth will be rapid for a time, then slow down so that the market can catch up.

At times growth will spurt for one group, then ease off while another industry, or part of an industry, starts forward. Under such circumstances, growth for the economy as a whole may appear to be at a rather steady rate, but that steadiness is only the smoothness of averages. The detail beneath the total and beyond the average is uneven.

Broadly, the more basic the industry, the greater the chance that the growth will be relatively slow and relatively steady. But like all rules, this has exceptions which, in some cases, may be more important than the rule.

Metals, for instance, are basic to the economy and to its growth. The consumption of metals as a whole has grown relatively slowly per unit of business done.

This does not mean that the consumption of all metals is rising slowly, or even that consumption of some metals is rising at all. Consumption of aluminum and certain steel alloys, for example, has grown rapidly while consumption of others, among them copper, lead and tin, has declined either absolutely or relatively to the economy.

New materials may have trouble breaking into new and competitive fields where they must demonstrate their worth to users. Once this hurdle is passed, new products tend to grow rapidly for a while but two forces work to slow this growth.

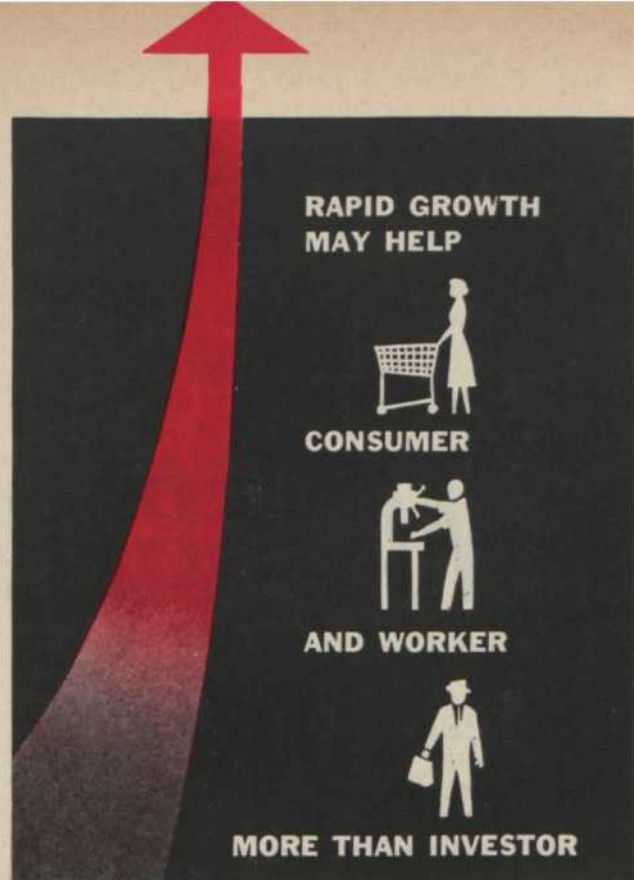
First, costs of a new product or service are likely to grow more rapidly than those of older, established competitors. This may weaken one advantage of the new product. The railroads, for instance, raised their charges per ton mile by an average of 48 per cent from 1942 to 1956, but contract carrier truck charges went up 63 per cent.

Second, growth of the newcomers stimulates makers of traditional materials to better competition. As an example, new steel alloys appear which have more strength per pound than commercially available aluminum alloys.

Aluminum consumption grew by 11 per cent a year from 1900 to 1940, and by more than 15 per cent from 1940 to 1955. In growing, aluminum changed other industries. To the extent that it could give greater utility per pound in air frames, for instance, it speeded the development of the new industry of air transport. To the extent that it could carry electricity cheaper than copper, it reduced the cost of expanding utility services.

Growth of the aluminum industry in these and other fields aided the growth of the economy as a whole more than the troubles of competing industries checked progress.

Aluminum, however, must break into the auto market, or into the building market as a structural or facing material, or into other major markets, if its growth is not to drop toward that of metals as a whole. Tin cans



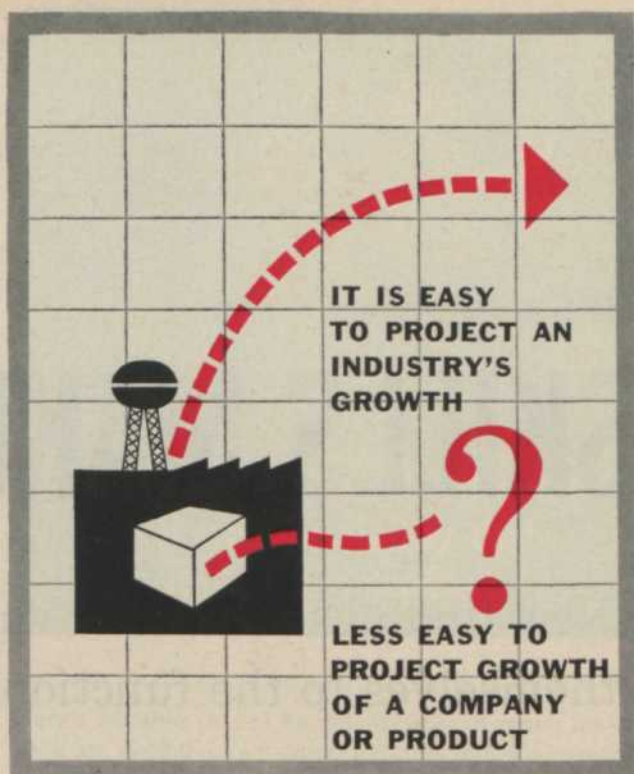
must break into frozen foods, or into such fields as soft drinks, if their volume is to be maintained after the competition of frozen foods becomes severe.

This pattern of slow, then rapid, then slow growth is so well accepted in the chemical industry that new chemical products or processes often are expected to have only short life even when they are introduced. Rayon is expected to replace cotton in an increasing proportion of tires for a time. Then nylon, or some other product, may replace rayon. Steel, for instance, is already threatening to replace some nylon in tires.

Growth and profits. Rapid growth, and research which makes rapid growth possible, are not necessarily synonymous with dividends, or even necessarily with final profits. Rapid growth may benefit the consumer or the worker more than the investor. This is one of the reasons our system can grow faster than the Russians. The loss in the profit and loss aspect of the economy is considered in the Russian system, but overridden in ours.

When new inventions come rapidly, the investment on the last previous invention may have to be scrapped in a hurry. This means progress for the economy. But the investors, the owners of the corporation, pay for such rapid obsolescence. Much of their earnings must be reinvested to replace equipment made obsolete, rather than paid out in dividends. The worker benefits from rapid progress because he builds and operates both the machinery that has been made obsolete, and the machinery that made it obsolete.

This is not a condemnation of research. Research enables us to grow. But we must recognize that progress through research can be expensive. It comes out of current income, not future income. The more successful it is, the greater the chance that it will require new investment before the old capital it makes obsolete has returned the profit a normal life expectancy might sug-



gest. Research will benefit particular companies relying heavily upon it. But it will reduce current dividends—and, possibly, the net rate of capital growth—of many who rely heavily on it.

Measuring growth prospects. This is not easy. Even when the extent of growth in a specific sector of the economy is known, its impact on particular industries may be difficult to appraise. For instance, it appeared at first glance that federal government support of a large highway program would mean a big spurt in sales of items used in highway construction. More careful scrutiny showed that this new program would mean little increased consumption of cement or use of heavy engineering equipment for some time. Companies which consulted their economists on this point were advised to expand only with caution.

The growth pattern in the new highway program, while differing in detail, conforms in principle to the general pattern of growth industries.

The new program rightly put more emphasis on urban traffic. Our economy is now more than 90 per cent nonfarm. But selecting rights-of-way in urban areas, determining capacity requirements, pinpointing overpasses, and so on, takes time. So, too, does the preparation for building intercity routes. Traditional practice has allowed landowners the right of access to new roads built through their land. The new freeways deny that right. It takes time to make this adjustment. The new routes, with rare exceptions, are to have no grade intersections. This means a great deal of engineering work, which takes time, too. The new program, though it will revolutionize our highways in time, will not pour concrete or lay asphalt in a hurry.

The highway program also demonstrates why the rate of change, rather than change itself, is important. The new program seems big because in the past we have never added up what (continued on page 52)

8

SKILLS MAKE A MANAGER

New findings show that successful leaders must restrict themselves to the functions that only they can exercise

NEW RESEARCH shows that professional management is made up of separable, identifiable and measurable skills that can be learned just as can any other capability.

It also shows that managers more often overburden themselves by performing the wrong kind of work rather than by failure to delegate.

The new findings are not academic distinctions. They identify special abilities which are uniquely the province of professional managers.

These abilities are: setting the goals, programing, budgeting, organization, motivation, and control; and, for those in the top ranks: innovation and decision-making.

Only a manager can exercise the skills on this list. As a leader, he must multiply himself through his assistants but he can do this most effectively not by performing his subordinates' work for them but by restricting himself to performing that work which only he can perform effectively.

Setting goals

Effective management is management by objectives. The professional manager devotes a great deal of time and effort to determining objectives and targets. Goal-setting involves careful analysis of past operating results and a balanced estimate of the potential of the people, facilities and materials available.

The evidence shows that every manager who aspires to a higher position must develop this goal-setting ability. If he has a target toward which to direct his own efforts and those of his subordinates, the manager can commit people, materials and money to its accomplishment with a minimum of duplication. Only when he has a goal can he measure progress toward that goal.

Goals set by top management determine the nature and scope of the business. Union Carbide Corporation, for example, has the resources to enter almost any field of activity. However, it has determined that its

primary business is developing and processing raw materials for industry.

Union Carbide has concentrated on developing a technology, marketing approach and people oriented toward these objectives. Its capital is invested consistently to further this aim. Thus, every advance in its business is built on a foundation already established. The company has progressively carried some of its products to a stage where they can be sold directly to the consumer. However, it has seldom shown the inclination to plunge off into fields entirely unrelated to its basic technology, raw material position and marketing skills.

Goals must be established by managers at every level. Tremco Manufacturing Company, for example, requires each manager to set definite goals in terms of numerical quantities and checkpoints. To illustrate, a market manager in Tremco sets targets in terms of dollar volume, the percentage ratio between cost of sales effort in relation to volume, the dollar cost of research time, and the dollar cost of such items as instructor-mechanic and field application engineering.

Programing

Programing is the determination of what you're going to do before you do it.

At its simplest, programing is the preparation of a written list of things to be done at the beginning of each day or other suitable period. The manager uses this for his own guidance or he may circulate portions of it to his subordinates.

More representative of effective programing, however, is the comprehensive system developed by organizations such as the Carborundum Company. In Carborundum, the entire company moves forward on the basis of detailed statements of planned activities, which are prepared by each manager and consolidated into an over-all company program. These programs cover a five-year period. Annual revisions are made, with an additional year's programing added at the

time of each revision to maintain the five-year continuity. The first-year program of the period is developed with great care and with as much detail and accuracy as possible. Programs for succeeding years are prepared with successively less detail.

Budgeting

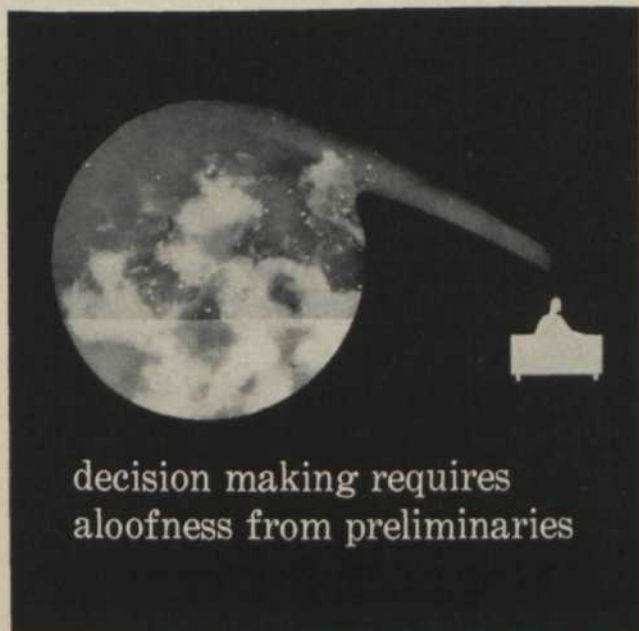
A budget is a management technique for projecting expected expenses against anticipated income for a future period. Budgeting is often largely the compilation of a series of dollar figures based on past experience. This can be a most valuable means of anticipating future fiscal requirements and of making appropriate provision before the need is imminent.

Budgets are best based on programs; that is, the manager first decides what he plans to do, then he prices out these activities. Carried out consistently, budgets help determine the level of activity by indicating what the company can afford to do in terms of its anticipated income. Money is rarely available to accomplish all programed activities as quickly as managers may desire. Consequently, it is necessary to establish a priority for planned expenditures. It is here that carefully thought through objectives become of greatest importance, because projected expenditures can best be justified when they are clearly necessary to attainment of approved goals.

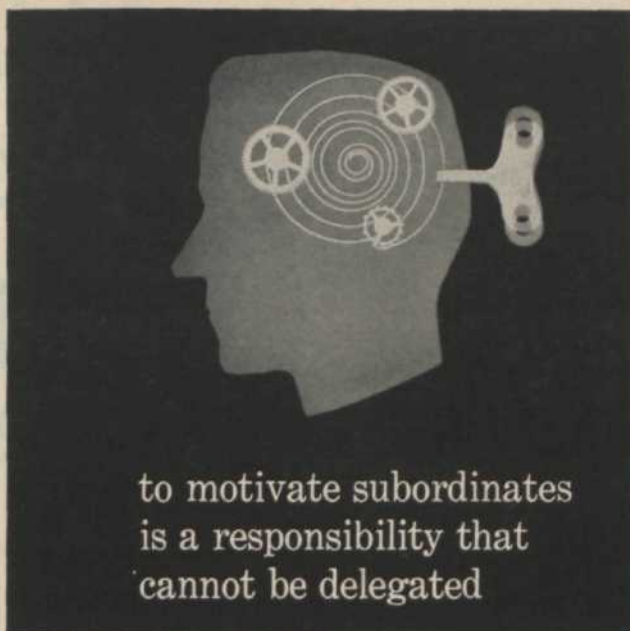
At Armstrong Cork Company budgets are prepared on the basis of careful study and evaluation of the probable requirements of the business. The budgets anticipate that, if managers operate efficiently, definite levels of income can be expected and corollary expenditures will have to be made. To help pinpoint accountability, the budgeted income and expenditures are classified, organized and assigned so they can be related easily to the managers who have responsibility for carrying out specific activities. Each department manager, for instance, is charged for all expenses incurred by his people for items ranging from stationery to the maintenance of equipment.

Management organization

The professional manager must master the skills of organizing because the organization he develops deter-



decision making requires
aloofness from preliminaries



to motivate subordinates
is a responsibility that
cannot be delegated

mines whether or not he will be able to reach his objectives. Sound organization requires that the manager first identify the work that must be performed to reach his goals.

He then groups this work in balanced, integrated positions, units and departments to ensure that it is done most effectively, with minimum overlap and duplication, and with best utilization of the human skills involved.

In this approach, each individual is given a clearly defined job. The authority he needs to do this work is delegated to him as a complete package and he is held accountable for the results he accomplishes in terms of mutually agreed upon performance standards. Finally, sound organization calls for the establishment of harmonious, cooperative working relationships, so that people can perform their duties with a minimum of personal friction.

Motivation

Until recently, motivation has been regarded as a fit subject for psychological research, but of little practical interest to businessmen. Now, however, we know that the need to motivate subordinates is a responsibility of every professional manager, and cannot be delegated.

The basic problem in motivation is getting people to do things because they want to, not just because they are told. Most leaders rely largely on command and direction for results. When backed by sufficient direct or implied coercion, either in the form of threats, punishment, or a dangling carrot, edicts can be effective.

However, professional management sweeps overboard outdated theories both of paternalism and of man as a purely economic animal.

For sustained results over the long term, the professional manager tries to give each of his subordinates a real proprietorship in the business. Where team effort is necessary, the team becomes the proprietor and is given the total responsibility and authority necessary for final results. The energizing forces necessary to operate these many (continued on page 58)

Where money to expand comes from

Union charge that business grows
by using costless capital ignores
these important financial factors

UNIONS have kept up a continuous attack on corporate profits. Charges that profits are excessive, were responsible for inflation, and are even greater than reported because of hidden reserves, have become commonplace. These direct attacks have been supplemented by various flank maneuvers.

One of these is the claim that industry has been obtaining costless capital by using part of its profits to finance expansion in plant and equipment.

The implication is that this reflects a corporate price policy which results in excessive profits out of which to finance expansion.

Dependence on internal sources of capital is not a development of the post World War II years. Financing a part of expansion out of undistributed profits has long been a common practice. This plowing back of earnings helps to explain the steady growth of living standards in the country. The opposite policy was followed with adverse effects in certain foreign countries—particularly England—after World War I.

Conventionally, and traditionally, funds are raised in our country from both internal and external sources. The major internal sources are retained profits and depreciation allowances. The main external sources are the sale of new security issues (bonds, preferred stock, or common stock) and borrowing from financial institutions (banks and insurance companies). The retained earnings are usually referred to in attacks on costless capital, although the discussion is often so blurred that depreciation allowances sometimes seem to be included.

In any case the proportion of corporate financing obtained from retained earnings has been declining fairly steadily since 1949. In the early postwar years the proportion of corporate funds accounted for by

retained earnings averaged about 40 per cent. In the past five years, the average has been less than 25 per cent. For the entire postwar period, retained earnings and depreciation allowances have accounted for 30 per cent of total funds required.

The proportion of funds required to finance expansion obtained from retained earnings since the end of World War II was actually even smaller than these figures show. The reported profits are overstated in varying amounts because of the understatement of depreciation charges and the inventory profits which develop in a period of inflation.

Under present tax laws, depreciation allowances often are inadequate to replace, at present prices, assets acquired earlier at sharply lower prices. The difference must be made up out of so-called retained earnings. An interesting illustration is found in the experience of United States Steel Corporation. In its annual report for 1956, the company reported that the "wear and exhaustion funds recorded for 1956 were \$278 million, or about \$67 million short of the \$345 million needed for buying power recovery." For the period 1940-1956, the deficiency was estimated at \$904 million. Other companies have experienced the same type of problem.

During virtually all of the postwar period, the United States Department of Commerce has stressed the desirability of adjusting corporate profits in the national income accounts to allow for the inadequacy of depreciation allowances. The Department does make such adjustments to remove the effect of changes in inventory values. Until recently, however, it had developed no acceptable procedure for correcting underdepreciation.

We now have estimates for depreciation in manu-

facturing industries on a current-year value basis. These data reveal the extent of the divergence between depreciation as reported for tax purposes and actual depreciation required to keep the real stock of corporate assets intact. The figures show that, from 1952 to 1955, current-year cost depreciation exceeded original cost by almost \$2 billion annually for manufacturing establishments alone. The study, contained in the *Survey of Current Business* for November 1956 concluded:

"Business profits, which make up the largest part of property income, are determined by the deduction from gross receipts of the costs of doing business, among them being depreciation. Property income is thus dependent in part on the manner in which depreciation is computed. In estimating national income, the depreciation deducted is that reported for tax purposes by business, and is based on the original cost of the assets being depreciated. If current-year values of depreciation are substituted for the reported values, a measure of business profits and a total property income results that is more meaningful in many ways, because all costs as well as gross receipts are expressed at a uniform current valuation."

That part of the retained earnings which has been added to inadequate depreciation funds to replace equipment at today's higher prices was obviously not available to finance expansion.

A second factor contributing to the overstatement of retained earnings has been the inventory profits which have accompanied the rise in prices. Unless a company uses the last-in first-out (LIFO) method of valuing inventories in calculating its profits, in a period of rising prices it takes into consideration lower levels of costs than those which prevail at the time the product is sold. Under these conditions, part of the reported profits are tied up in higher priced inventories. The U. S. Department of Commerce has recognized the importance of this situation and now estimates an "inventory valuation adjustment."

For the period 1946 to 1956, the inventory valuation adjustment totaled \$22.3 billion as compared with total undistributed profits of \$102.9 billion. Since taxes are paid on earnings which include inventory profits, the higher replacement cost of such inventories can be met only out of undistributed profits.

Clearly, that part of retained earnings required to meet higher inventory replacement costs cannot be considered as additions to capital—costless or otherwise. The magnitude of retained earnings as a source of new capital, therefore, is smaller by significant amounts than the reported figures show. In 1955, for example, the combination of these two factors accounted for at least \$3.5 billion (inventory profits, \$1.7 billion, and manufacturing industries underdepreciation, \$1.8 billion) out of undistributed profits of \$9.9 billion. This was more than one third of the total.

The union statement that "the public is called upon to provide the funds but is shut out of participation in the profits to be realized from the use of these funds" is equally exaggerated. It apparently assumes that a company is free to charge any price for its product and then to use the "extra money" to buy new plant and equipment. In reality no company can set prices arbitrarily without relationship to market forces. If it did, customers (continued on page 93)

WHAT THE CRITICS SAY

The Steelworkers Union has stated:

"Gone, apparently, is the concept of 'risk' capital, of financing industrial expansion through flotation of stock or by means of borrowing on bond issues. Instead, the steel industry argues its right to collect 'riskless' capital from unwilling consumers by forcing upon them higher prices."

Nat Weinberg of the United Auto Workers states:

"I would feel a little better about this policy [internal financing] if with every item containing steel that I bought, I received a share of stock or a part of a share of stock in one of the steel corporations. This would make some sense. If I am to supply the investment capital, I should get an equity."

The AFL-CIO Economic Policy Committee has charged:

"... most of the money used by corporations for expanding their holdings is costless capital, rather than the risk capital of investors or even loans on which they would pay interest...."

"A major source of costless capital is the consumer, who pays the prices set by the large corporations.... The price structure, established and maintained in many industries by giant corporations, is often set at such a level that in effect the consumer is making a major contribution to the financing of new structures and equipment."

These statements are echoed in Congress. Thus, according to Senator Joseph C. O'Mahoney:

"Internal financing of big companies is made possible by the huge profits which are kept undistributed and are plowed back into the industry.... United States Steel sought to get the money for expansion of plant not in the capital market but in the profit market by increasing its price."

How much pay for college graduates



New survey shows business intentions about hiring and pay of 1958's talented students

INDUSTRY'S biggest talent hunters will be choosier this year.

Although recruitment of college graduates will not be cut back drastically, business employers will concentrate on the best qualified students in 1958. Higher salaries will be offered, but the rate of increase over previous years is beginning to flatten.

Most top recruiters foresee a leveling of both salaries and demand for graduates in the next two or three years. For small companies this is particularly good news.

These predictions are based on a new survey by Dr. Frank S. Endicott, placement director of Northwestern University and an authority on recruitment practices, plus additional predictions of industry recruiters. Some of the findings are given here to help you make your hiring plans for the future.

The most active recruiters are forecasting looser demand even though many of them fell short of their hiring quotas last year and even though the outlook is for lean crops of graduates until the early 1960's. The reason for eased demand can be traced to the fact that some of the biggest concerns met their needs last year and many companies see slower business in the next few months, meaning more restricted operations.

Dr. Endicott's survey of more than 200 large and middle-size concerns that recruit all over the country was made from Nov. 1 to Dec. 1, 1957. As the survey questions were being answered, business already had wind of the rolling adjustment in the economy. The stock market had fallen. Two sputniks were hurtling around the globe. Congressional leaders were talking of higher defense spending.

Two further factors complicate forecasts of hiring requirements and starting salaries:

Many companies make recruiting estimates no more than six months ahead of time.

More than half the companies raised their starting rates after the last recruiting season began, and many will probably do so again this year.

An earlier survey of top recruiters—made in September by the Midwest College Placement Associa-

tion—found about the same hiring and salary trends as did the Endicott survey. It also noted that last year companies filled only about two thirds of their technical job openings and 80 per cent of the openings for nontechnical graduates. Companies had to make more than three offers on the average to get one technical man.

The recruiting companies reported they will seek about the same number of graduates in engineering, chemistry and physics in 1958 as in 1957 but fewer graduates in such fields as accounting, advertising, economics, finance, production management, sales. When the demand for both technical and nontechnical students is averaged the total is down eight per cent from last year.

According to Dr. Endicott, even in engineering and technical fields demand for college graduates appears to be narrowing. A few large companies are reducing their requirements, though some smaller companies report increased needs.

"It seems likely that large companies, with heavy requirements, were fairly successful in hiring college men last year and that their needs are stabilizing," he notes.

The prospective 1958 starting salaries will average about 4.6 per cent higher than in 1957, personnel officials estimate. The monthly pay offers will range from \$375 or less to \$500 and more for inexperienced bachelor degree graduates. The average starting salary for all fields is put at \$430 a month, compared with an average of \$411 a month paid last year.

Starting salaries in 1958 for graduates with master degrees (chart shows only bachelor degree graduates) was estimated at \$505 on the average for engineers; \$457 for accountants; \$445 for sales and general business students.

In looking ahead two or three years, most surveyed companies—122 of them—reported their demands will level off. Some 88 concerns guessed that their demands would increase. Thirteen companies said their demands would be less.

Dr. Endicott said the most common reason given for an increase in hiring in the next two or three years

was company growth and expansion into new products and new fields. Other reasons included the need to up-grade the employe level, to fill vacancies in the pipeline as older employes retire and to meet increased defense work.

Most of those predicting a flattening in demand said their expansion is about completed or figured their business would slacken.

Most of the companies also judged that starting salaries will reach a plateau in the next two or three years. Some 114 companies guessed this would happen in their own cases. However, 101 companies figure starting salaries they offer will continue to increase. Only two companies estimate salaries will drop.

Main reasons for predicting higher starting salaries were: continued competition for the short supply of men, and the upward trend in wage rates.

Those who expect a leveling of starting salaries in their fields gave three reasons: general economic trends; supply will meet demand; it will be easier to get men with job experience.

Predictions of lower salaries came largely from those who said current rates are not justified in terms

of the contribution which graduates are able to make to profits during their first year.

Most companies begin to figure how many graduates they will need six months or a year before they hire them. But some companies plan five years or even 10 years ahead. U. S. Steel Corporation, for instance, plans three years ahead on a year-to-year basis. That is, operating divisions ask plants and offices to report by each Dec. 1 how many men they will need for the next three years, so the estimates are up-dated yearly.

The companies reporting in Dr. Endicott's survey consider personality the most important qualification in graduates they hire. High marks are ranked next important, particularly for engineers and accountants. For salesmen, participation in campus activities is considered even more important than high grades. In most cases, companies give part-time work while in college more importance than the number of general college courses. Special courses are considered important for engineers and accountants. But for sales and general business, general courses are listed as more important.

END

AVERAGE STARTING SALARIES FOR COLLEGE MEN

FIELD	NUMBER OF COMPANIES REPORTING	\$375 or less	\$376 to \$400	\$401 to \$425	\$426 to \$450	\$451 to \$475	\$476 to \$500	\$501 and over	AVERAGE STARTING SALARY	
									1958	1957
Engineering	162	0	2	8	34	70	44	4	\$468	\$454
Accounting	120	15	29	40	20	13	3	0	\$416	\$402
Sales	107	21	30	24	13	15	4	0	\$412	\$398
General business trainees	110	20	31	34	16	8	1	0	\$408	\$393
Other fields	53	6	11	10	10	10	6	0	\$429	\$419
Average starting salary, all fields									\$430	\$411

COMPARISON OF STARTING SALARIES

FIELD	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958
Engineering	\$250	\$261	\$260	\$270	\$305	\$325	\$355	\$371	\$415	\$454	\$468
Accounting	215	240	238	246	275	297	325	339	372	402	416
Sales	226	240	240	247	275	301	328	339	370	398	412
General business	221	236	234	241	271	292	322	337	363	393	408

Brainpower tests rate executives

New information on mental functions helps
pinpoint managers' strengths and weaknesses

Dr. Halstead, will you tell us about your new studies on executive brainpower?

In 20 years' work here at the University of Chicago we have developed the Halstead Battery of neuropsychological tests for measuring the brain functions which underlie mental efficiency and effectiveness.

Five years ago we began giving the tests to several hundred executives from large companies in the Chicago area who have been getting an annual health checkup at the University clinics. We have been testing the brainpower of these executives as a part of their health checkup.

What have you found out?

Four out of five in this group of high-level business executives at age 50 are functioning as well as a carefully selected group of young professional men 25 years old. In other words, up to age 50 at least, the brain does not appear to age or deteriorate just through the passage of time.

Is there a higher age level at which the functioning of the brain does seem to deteriorate?

Signs of impaired functioning appear to be more frequent in the sixth and seventh decades of life, although we cannot yet make a firm general statement. Some executives in their 60's and 70's show no impairment of higher brain functions. For example, one, at age 78, has just come up with a valuable idea to his company in the field of advertising.

Do you have any figures on this?

In the age range from 40 to 60, the impairment index on our test battery increases. Whereas the group of 25-year-old professional men showed no impairment of higher brain func-

tions in our tests, 22 per cent—or one in five—of our high-level executives aged 50 showed impairment. At 60, the number was one in three.

We have come to suspect that vascular disease may be responsible when we find impairment in men who outwardly appear to be healthy.

What are the effects of brain impairment?

Even mild deterioration of the brain may result in lack of initiative, disturbances in attention, impairment in thinking and judgment, disruption of emotions, and disturbance in ability to get along with people.

Is such an executive less fit to hold a responsible position than one without impairment?

No. My measurements have repeatedly brought out this: Particular skills, experience and knowledge, considerations of temperament and personality, drive and ambition, have to be weighed along with the evidence of brain impairment in judging an executive's fitness for a particular position.

Our test information provides a valuable guideline which can be used with other relevant information in evaluating a person. This is true whether we are assessing the brainpower of creative scientists, business executives, government administrators, professors, doctors, lawyers or other professional personnel.

Do your tests pinpoint a person's strong points and weak points?

Yes, they do pinpoint, or audit, certain assets and liabilities of the individual. Administrative jobs range from low pressure to high pressure responsibilities. Some men have to make many important decisions each day. Others, much fewer.

Our tests reveal, for example, whether a man is well suited to work under high pressure stress rather than at a more measured tempo. Some men who have excellent reflective judgment fail badly under pressure and vice versa. Some men are built to accept new ideas with courage, enthusiasm and vigor, and to carry through on them. Others will drag their feet. Each may be invaluable in his proper slot, but a misfit in a key position can play havoc with an otherwise sound organization.

Experts have described the tests as helpful in strengthening a business organization, as yielding information that can be useful in selecting, placing, promoting, and assigning key management individuals.

Could you give an example of how the Halstead Battery has been used in this way?

There was a case of three vice presidents of a large Chicago company, with assets of more than \$50 million, from whom a new president was to be chosen.

Their ages, experience, records with the company, social background, ambitions and other outward factors made them about equal candidates. The board of directors wanted to do more than pick the best of the three for the top job; it wanted also to be sure the other two would give the new president their wholehearted support.

The Board chose Mr. A to be president because our tests revealed that, although, at 51, he was the oldest of the three according to the calendar, Mr. A in fact had the youngest, most efficient brain. The chairman had made the brainpower of the candidates the prime test for the selection.

The laboratory findings on the

Halstead Battery revealed that Mr. B, at 45, was a "considerably older man than his years," while Mr. C, at 48, was beginning to show the signs of wear and tear.

Mr. A's brainpower and efficiency are young, flexible, and adaptable in the patterns most commonly found in men under 35. Somehow, Mr. A has cheated the calendar.

Individual discussion of these facts with the other two candidates led them to go along with the selection of Mr. A and to pledge their support to him as a natural for the presidency.

Are your tests useful, for example, in determining whether an executive may be stepping into shoes too big for him?

Yes. It is truly remarkable how much brain impairment can be tolerated if a man is doing things familiar to him.

He may handle familiar routine in a satisfactory manner—those things he knows how to do. The problem of brain impairment arises when an impaired individual is upgraded to new and unfamiliar responsibilities.

I believe that judicious use of this battery of tests, along with other relevant information, may aid in the early detection of favorable and unfavorable aspects of brain functioning and contribute somewhat to lengthening the peak productive span of the individual.

Would you say that your tests reveal growing resistance to change as persons grow older?

We don't know that much about the aging process yet. I would point out, though, that one of the early symptoms of brain damage is withdrawal from new and challenging

situations on which healthy brains thrive. If it should turn out that what we have called aging is actually a form of brain damage, then, of course, it would not be surprising if those older persons who have brain impairment would resist change in such things as environment, new ideas, new ways of doing things, and the mastery of new processes.

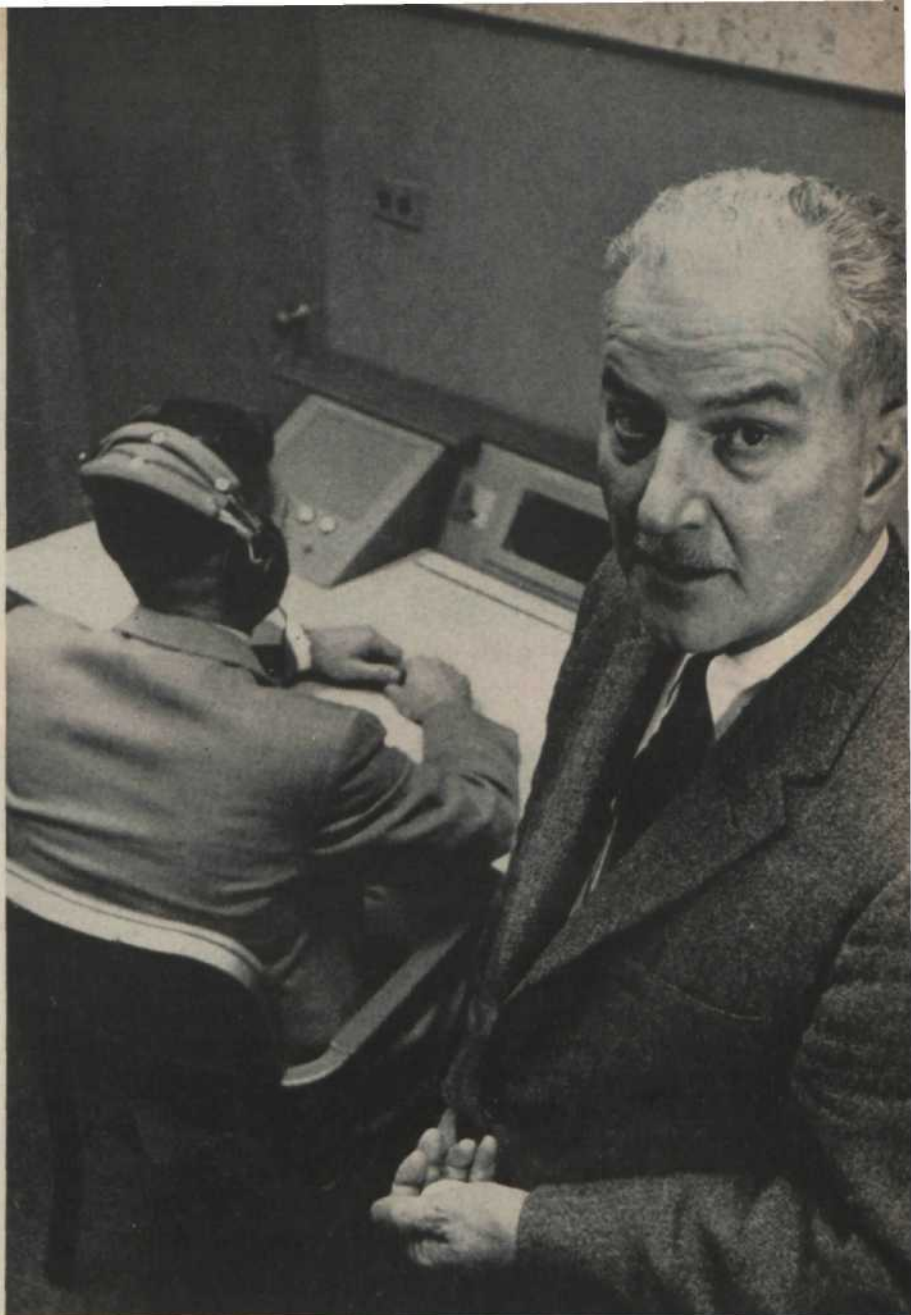
Might this resistance to change stem from a fear of insecurity?

In general, the tendency to cling to familiar ways of doing things and

resisting change does reflect personal insecurity. I would only question whether the calendar is a reliable index to the incidence of this resistance to change. As a college professor, I have seen many instances of such resistance in very young people.

What are some of the problems that might at least partially be solved if we improve our ability to measure brainpower?

First let me say that it is brainpower, regardless of where it may
(continued on page 55)



ARCHIE LIEBERMAN—BLACK STAR

Dr. Ward C. Halstead, shown with test console, is professor of psychology and director of medical psychology at the University of Chicago. He is an international authority on the brain and its behavior and is a consultant to our military and other federal agencies

Here's guide to upturn timing

Comparison of five factors in 1958 with
1949 and 1954 can help in your planning

MOST COMPETENT authorities agree the business slippage this year will resemble that of 1949 and 1954.

The opinion is not unanimous. Some analysts insist that 1958 will bring recession more severe than that of either of the two most recent recession years. One prominent forecaster's judgment is that the Gross National Product will decline by \$25 billion this year and that we face a severe depression. Others feel that the depression has already ended and we are on the road to recovery.

Whatever the outcome, all companies will not feel the effects equally. Even if 1958 is somewhat similar to 1949 and 1954 when viewed in broad perspective, closer examination will bring out significant details which will have different impacts on different men and different businesses.

Comparison of points of similarity and of differences between our situation now and the situation in 1948-49 and 1953-54, therefore, may help individual firms to judge how their present positions resemble their positions in these previous periods of adjustment and to time their actions to take advantage of changes in the whole economy.

Important in comparing the present picture with that of 1949 and 1954 are these factors:

Investments; including plant and equipment, housing, inventories.

Government spending; including state and local.

Price patterns.

Production and consumption.

Consumer trends.

Comparing these major components for today and for past recessions appears to give no general grounds for fear.

Investments

One point of almost universal agreement is that business investment has been dropping and will drop further in 1958 as it dropped in 1949 and 1954. The similarity with the two previous periods is striking. Many comments made in 1949 on this point read as though they were being made today.

Among them is this by the Council of Economic Advisers to the President:

"In many fields, including . . . the expansion of ca-

capacity to catch up with postwar markets, the replenishment of inventories and the reduction of order backlogs to reasonably normal proportions has now been accomplished; further investment will take largely the form of cost-cutting improvements and new products. In a few important industries, expansion of facilities and inventories has still not overtaken obvious current needs."

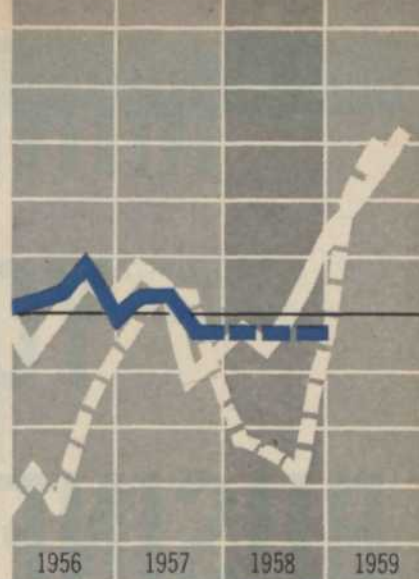
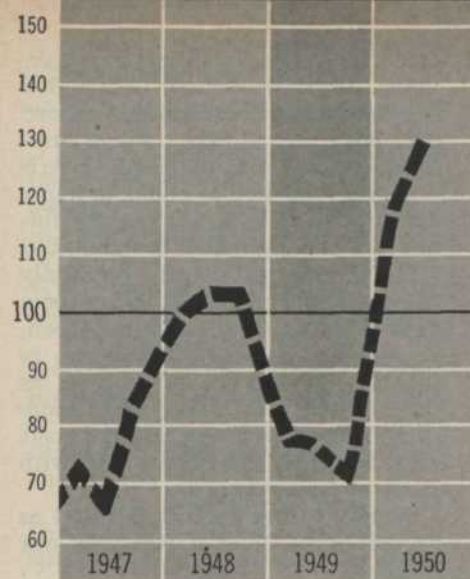
The judgment that capacity in general has caught up or more than caught up with requirements is basic to most of the pessimism of those who feel that 1958 will probably be a year of recession. History is more optimistic.

Despite similar gloom which deepened during 1949, fixed investment never dropped to 1947 levels. The lowest annual rate in the year was only about \$2 billion below the average for 1948. Fixed investment in the first quarter of 1950—long before Korea—was above the average for 1948.

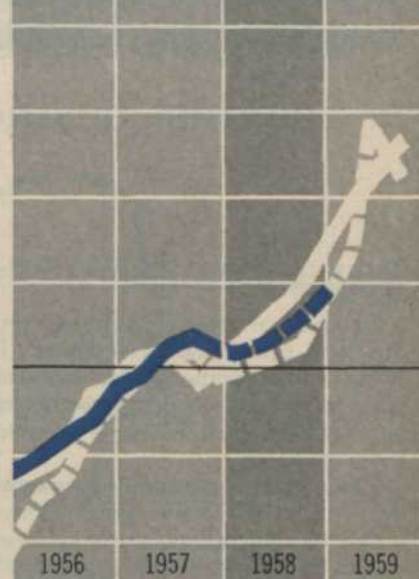
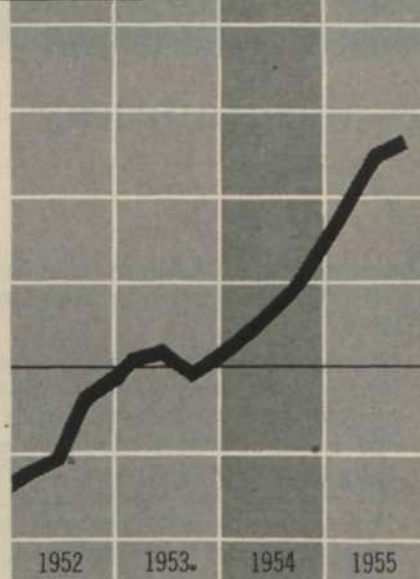
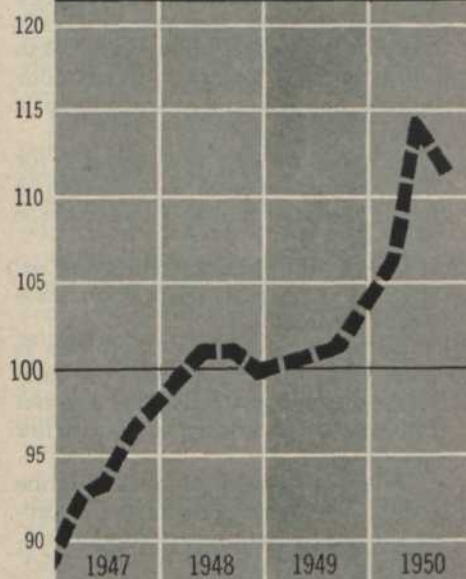
The 1949 experience in fixed investment is particularly interesting because the rate of expenditure had been rising so rapidly in 1947. Fixed investment in the third quarter of 1948 on a seasonally adjusted basis was one third higher than it had been only 18 months before and was more than (continued on page 48)

The charts show the behavior of three economic factors now and in the recession years 1949 and 1954. In each, the year before recession equals 100 per cent. In the third chart in each series the preceding charts are repeated for easy comparison

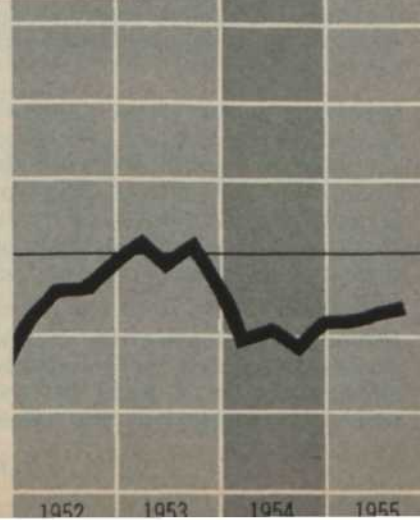
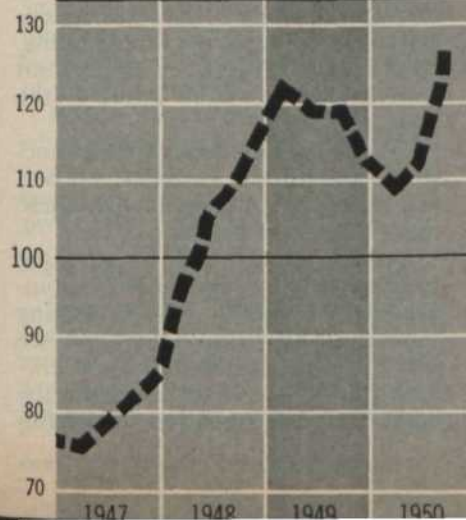
Business investment



Consumer expenditures



Government outlays



MINIMIZE YOUR BUSINESS RISK



Here are four steps to guard you
against business uncertainties

THE BUSINESS GAMBLE is a riskier one today.

In spite of greater national production, sales and investment in plants and equipment, business profits as a per cent of sales have become increasingly hard to come by over the past 30 years.

The trend seems likely to continue. Yet, as Emerson said, "These times, like all others, are good ones if we but know what to do with them."

Caution and conformity, momentarily necessary as they may be, are passive and eventually self-defeating ways of meeting a challenge. More dynamic action is called for if we are to go on prospering.

Four preliminary steps suggest themselves as a starting point for such action:

- ▶ Understanding why business is more precarious than ever before in history.
- ▶ Re-examining your own basic business philosophy and using it as a lever to increase profits.
- ▶ Re-exploring present assets in search of new profit possibilities.
- ▶ Developing executives who can grasp the whole business picture.

Why, in addition to the economic slowdown, is caution now playing a

greater role in business than ever before? There are four principal reasons:

Keener competition. Rarely do we hear of a company having a closed territory all to itself anymore. Everyone is alertly looking around for expansion possibilities and "leaping into any field that shows promise. This continues until the area becomes marginal or unprofitable.

Higher taxation. This has upset the balance more clearly and traceably than any other cause. Almost every enterprise in the modern world is giving up a big part of its earnings to government. Even though much of this goes to pay for unconstructive military measures, the effects are similar to a quasi socialism. Initiative is hurt. Security becomes the prize.

Inflationary pressures. Over the years these have pushed costs higher. Unionism has played its part in this by attacking wherever a company's financial performance is good enough to make it a target. So labor has tended to levy its own tax on business profits.

Antimonopoly legislation. This has further stimulated the competitive trend. Although it might be listed first, chronologically, this factor

ranks far below the others in importance, partly because of the inevitable foggiess with which it is carried out. Even in countries where anti-trust laws are almost absent, there is a strong tendency to compete more. Lawmakers only lay down the formalities of a fight that is inevitable.

These four causes are obviously interrelated, and at least two of them tend to start an endless spiral. Keener competition sets businessmen to looking for greener fields and, as they branch out, they create more competition elsewhere. Higher costs keep begetting still higher costs with Biblical perseverance.

None of these factors is listed as an evil force or as a defect in our system.

For present purposes, let's merely say they exist, and go on to look at their consequences.

The result of these conditions is, of course, that the gambling odds found in business are completely changed. As always, the possibility of loss is unlimited; but the chance of gain is held sharply in check. Your sales graph may zoom skyward, but the line that shows your return on investment runs into a very low ceiling.

So where it once was possible for one brilliant coup to outweigh a whole series of mistakes, the reverse is now true:

One major mistake can undo all that was gained in years of successful operation.

It might be asked: If all this is true, why, then, is the rate of business failures quite moderate and not immeasurably worse than in earlier years?

There are several reasons: For one thing, the general prosperity has provided many temporary opportunities that enable some unsound businesses to hang on. Available credit, too, makes it possible to go on as long as there is a shred of hope.

But the overriding reason is that we have learned to live with the new odds and have adopted a cautious philosophy toward every decision. From this philosophy comes the talk about conformity, the new executive class, scientific decision-making. Men are no different basically, but they sense that team effort is the modern way.

For all the talk about letting executives learn from mistakes, we permit few sins of commission these days. They cost too much.

Yet adapting to risk by stressing caution at any cost merely compounds the problem. To the existing misfortune of reduced margins, we add the permanent handicap of lowered initiative. So the need for the right kind of executive leadership

is as urgent as the need for more adequate profit planning.

Re-examine your philosophy

Before planning any major tune-up of its profit-making process, a company must take a fresh look at its basic philosophy of business. What is its reason for existence? What special contribution to the economy accounts for its profits?

The answer cannot be a glib: "We process raw chemicals and sell them profitably as finished compounds," or "We make our profit by buying consumer goods at wholesale prices and selling them at retail."

A more penetrating question lies beyond that: "What uniqueness or special genius do we have that makes certain customers patronize us instead of someone else?"

The answer to that—if it's studied from all angles—may provide a clue to some important new profit possibilities.

If customers come because your business is ideally located, for example, isn't it possible that you have overlooked providing other inducements that might bring still more volume?

If a trademark or reputation for superior quality brings you buyers, perhaps your promotional effort could reinforce that standing to interest a wider circle of potential customers.

In any event, by identifying your particular reason for business success, you will move logically to the companion thought: "Now how can we use this *raison d'être* as a springboard to a better profit margin or modify it in order to solidify our position?"

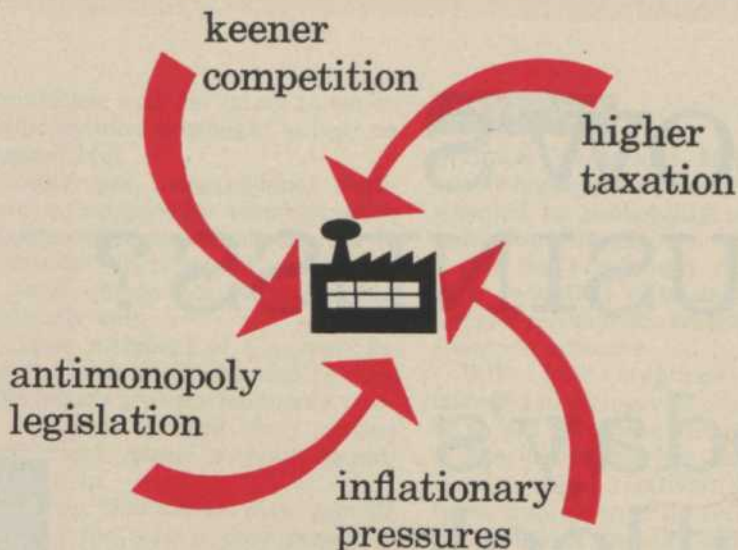
Here, especially, the intelligent over-all understanding of your executive staff is critically important. Although the goal is to elevate your rate of profit, a sweeping decision to cut customer service or to discontinue a low-margin line can be foolhardy. In many companies, a low-gross line of products serves to strengthen competitive position, to secure standing in the industry or to facilitate other sales. Only managers of broad outlook can competently accumulate the facts needed to answer one question in the light of many related ones.

But a thoroughgoing study of what makes your business tick will almost invariably point to a shift in emphasis that can turn a mediocre profit into a good one.

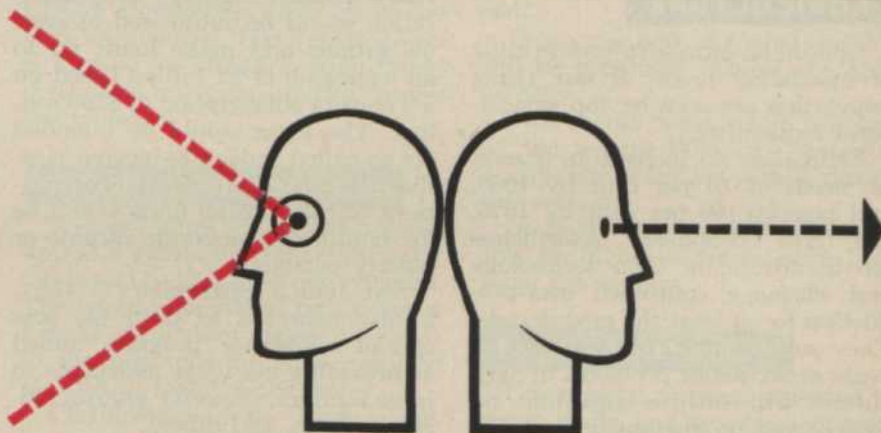
Re-explore your resources

The second positive answer to higher costs and lowered odds is related to the first, but it calls for a change of focus. Having looked at the whole picture in a general way,

Profits in this climate . . .



require executives with "big-picture" skill



the next step is a detailed examination of each factor to find a way of doing more with what we have.

The endless drive to expand is all well and good. It is a way of scattering risk and fortifying against disaster. But it is an incomplete program. Building another plant and adding a new product line may give you greater security, but you are still accepting the same reduced odds on every dollar of capital invested.

Only if this is augmented by a drive to make existing assets do extra work can the profit ratio actually be raised substantially.

The purchasing man, in having popularized the technique called *Value Analysis*, has given a cue that should be taken up in every phase of business.

General Electric Company, which may have been the birthplace of *Value Analysis*, describes it as "equiva-

lent value at lower cost." Every item, whether bought or manufactured, is examined relentlessly in an effort to get just as good a result for less money. If research and production men join in, the outcome is sometimes not merely a saving, but an actual improvement on the original item. In one case, a \$5 circuit-breaker was redesigned several times until it cost only 30 cents—and best of all, took up so little space that it had many new uses.

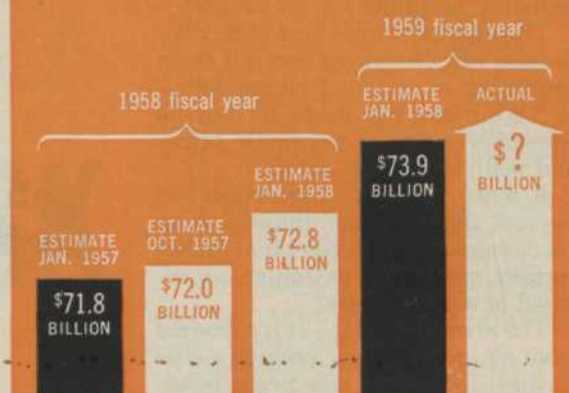
This same kind of determination to turn every asset inside out, this zest for re-exploration, can point to unsuspected riches.

It has become so much a part of us to look for new devices, new personnel, new buildings whenever we think of progress, that we can easily neglect the resources on hand.

We should give more emphasis to the old-fashioned question "How
(continued on page 88)

HOW'S BUSINESS? today's outlook

Government Spending



AGRICULTURE

Continued farm surpluses in spite of expanding needs of our rising population are seen by top agricultural economists.

Estimating an increase in domestic needs of 20 per cent by 1965, and possibly 50 per cent by 1975, the farm economists nevertheless see in advancing farm technology and efficiency continued over-production for at least the next decade. They suggest that, for the next 20 years or so, major problems in agriculture will involve adjusting resources and production to changing market needs rather than emphasis on increasing productive capacity.

The economists told the Subcommittee on Agricultural Policy of the Congressional Joint Economic Committee that they also look for continuation of important current trends. Among these are: increasing size of farm units; continued need to restrict use of cropland; further shift of farm people to nonfarm employment; rising capital investment per farm worker; more vertical integration; improved marketing efficiency; more emphasis on research; and increases in credit service.

CONSTRUCTION

You can look for strong efforts to extend direct federal mortgage assistance to families—well into the middle-income brackets.

Sen. Joseph S. Clark (D-Pa.), and others, would like to establish a National Mortgage Corporation within the existing Housing and

Home Finance Agency. The corporation would be authorized to issue obligations and make loans up to an aggregate of \$1 billion based on a Treasury subscription of \$100 million. The loans would be intended for so-called moderate-income families, co-ops, and private corporations whose housing units would be for families of moderate income or elderly persons.

Sen. John J. Sparkman (D-Ala.), is also expected to push his new special assistance program aimed at providing mortgage assistance to large families, minority groups, elderly persons, and others.

Urban renewal will play a dominant role this year with proposals to increase the current \$1.3 billion grant-in-aid program by \$500 million each year for the next 10 years.

CREDIT & FINANCE

Some further easing in the money market may occur during the first six months of 1958—with a gradual stiffening seen toward the last half.

Demand for money will continue strong from housing, local and state governments, some businesses.

Business investment intentions are cautious. The profit margin has narrowed, while sales have climbed and will continue to move up slowly. Chemicals, plastics, durables remain strong.

Inflation is succeeded by deflation as a current economic problem.

Further spotty dips in employment are anticipated for the first quarter of this year.

Current hearings in the Senate

Finance and House Banking and Currency Committees will provide further elaboration on the problem of sound national fiscal operations.

DISTRIBUTION

In 1958 we are facing an odd situation with the likelihood of slightly rising prices, increased unemployment and more after-tax personal income.

This is the outlook in specific retail trades for the first quarter and the first six months:

Retail food sales are riding above year-ago volume and are expected to stay at higher levels.

Department stores generally look for first quarter sales to be under the 1957 first quarter mark.

Sales for apparel and other soft goods are brighter than for durable goods. Still lagging are appliance and TV-radio sales.

In hardware, an upturn in new home building plus home improvement spending should spur volume.

Auto sales are not expected to reach 1957 figures in the first half.

Distribution trades are bucking consumer uncertainty. People with more money to spend are seeking out lower price tags and buying fewer items.

Consumer installment credit outstanding keeps rising—but at a much slower pace.

FOREIGN TRADE

You can expect greatly stepped up pressure for trade and loan programs to strengthen the free world

Chamber of Commerce of the United States

relationship and fight the Soviet economic offensive.

Urgency of such programs is pointed up by the President's State of the Union message and by Secretary of State Dulles who said that unless we take the Soviet economic offensive seriously, "we can lose this struggle without a shot being fired."

For example, more than 100 million people, oil of the Middle East and the vast resources of Africa are in danger of being subverted and lost to the West through the Soviet bloc economic push. The communist line, as spotlighted in the recent Afro-Asian conference in Cairo, called for Middle and Far East nationalization and exclusion of western companies. Soviet aid and easy-term credits to some 10 nations, in the past two and a half years, has been estimated at \$1.5 billion. A rash of trade agreements between communist nations and the free world was concluded in late 1957.

GOVERNMENT SPENDING

The annual battle of the budget is already taking on a completely different character from last year. Congress, spurred by election year prospects, appears to be doing an about face from last year's economy stand. The problem for advocates of constructive federal economies is not the Administration's proposals so much as the threat of Congress' desire to increase the requests in many areas, including nondefense activities. Justification will be "national security" and "investments in America's future development."

The philosophy of cutting back on less urgent spending is running head-on into political considerations, and is in danger of dwindling to lip service. However, strong support for those who are concerned with the economic threat of the cold war was given in the President's messages and a small nucleus of legislators will stress careful restraint in federal spending. Their effectiveness will hinge upon support for economy by the people.

LABOR

The kind of labor legislation—if any—Congress will pass this session is still uncertain.

Much will depend on coming labor-management developments, new disclosures of the McClellan

Committee, and the extent to which public opinion is brought to bear on Capitol Hill.

Right now, congressional sentiment, encouraged by Administration recommendations, seems limited to measures which would simply try to keep unions honest and democratically run.

Those members of Congress favoring corrective legislation to cope with labor's growing monopoly power will have a hard time putting their views across without considerable help.

Unions themselves may provide some of the help if they persist in unreasonable bargaining demands to the point of provoking strikes that are costly to workers, business and the economy as a whole.

Congressional sentiment might also be changed by what the McClellan Committee turns up in the next few months. The Senate group is turning its attention from union corruption to union abuses, power and violence.

NATURAL RESOURCES

Western states will press Congress again for guarantees that state water rights will be preserved and honored. The question of states' rights versus federal paramount rights is similar to the tidelands oil issue, resolved in 1953 in favor of the states.

Clarification of the issue is embodied in the Barrett bill (S. 863) due for heated debate and controversy during this session.

The proposed requirement that federal agencies shall recognize state laws in developing water resources projects is acceptable to the Interior Department, which maintains it always recognizes primary state jurisdiction. The Justice Department, however, apparently leans toward the theory that water originating on federal lands within the states is subject only to federal jurisdiction. Western developers say application of this principle would threaten public and private investments which depend on water rights granted under state law.

The doctrine of paramount rights, rejected in the tidelands oil case, could easily lead to federal domination of the region if successfully applied to western water. Proponents of strong central government could then move from water to minerals, forests, and petroleum.

TAXATION

House Ways and Means Committee hearings on tax revision have revealed no probability of tax rate reduction this year.

But don't rule out chances for such reduction if business doesn't begin a recognized comeback before Congress adjourns.

With few exceptions witnesses have urged changes in over-all rates or to aid specific economic groups.

The committee has listened patiently, asked relatively few questions, and given little indication of the shape of the tax bill to come other than to rule out major rate reduction barring notable worsening of our national economic situation. In view of greatly augmented federal spending as proposed and in prospect, this is not likely to happen.

Prospects now are that no bill will be presented before late April or May.

That would mean short hearings by the Senate Finance Committee if any law is to be passed during this session.

In final form the bill will probably be highly technical with little relief for anyone.

TRANSPORTATION

Commercial airlines, squeezed by rising costs and government-regulated fares, are facing an anxious year.

A real crisis in the industry could result, airlines say, if the Civil Aeronautics Board delays too long in making a decision on the carriers' request for a fare adjustment. For the past several years, airlines have enjoyed a record-breaking business volume but profit figures have been going in the opposite direction. They point out that the fares they charge today approximate those charged in 1938.

As a result, airline plans to provide about \$2 billion worth of modern jet-type aircraft beginning this year are running into rough weather. Credit institutions say the needed equipment cannot be financed on present-day earnings.

The carriers fear the CAB decision probably is many months away—although an emergency increase of approximately six per cent is likely to be granted before the final decision.

Analysis shows what business investment pattern could be for rest of '58

double what it had been early in 1946.

Even following this rapid rise, the volume of fixed investment in 1949 declined only about seven per cent from its highest quarterly rate, and was climbing again in a year.

The drop was even smaller in 1954. In the first quarter, the rate of fixed business investment was about \$1 billion less than the average for 1953 and \$1.8 billion less than it had been in the highest period of 1953. The drop ended with the second quarter of 1954. By the third quarter business investment was above both the average for 1953 and above the highest point reached in 1953. Investment had not grown as rapidly from 1951 to 1953 as from 1946 to 1948. Nor was the decline from 1953 to 1954 as great as from 1948 to 1949.

As we entered 1958, the relative plateau of fixed investment in 1956 and 1957 was not always recognized. Many types of business investment actually began to ease off as much as two years ago. For this reason the rise was not as sharp from 1956 to 1957 as it was from 1947 to 1948. So our position now is much closer to 1954 than to 1949.

Even if business investment drops in 1958, many analysts believe the level in the fourth quarter may not be much more than four per cent below the fourth quarter of 1957, if that low.

There is also evidence that investment in 1958 may be falling below the level needed to maintain production for our growing economy. The Chase Manhattan Bank released some interesting material at the meeting of the American Economic Association in late December. Analysis by the staff of this institution suggests that, unless the economy collapses for other reasons, business firms may be spending more for investment in 1960 than in 1957.

An increasing proportion of firms are operating on investment schedules of three or four years or longer, and make their investments without a great deal of relationship to sales prospects of the immediate year. This would suggest that fixed investment may not drop precipitously in 1958 or 1959. Manufacturing investment may drop by a sixth, but commercial may drop very little. Utility, eleemosynary, and housing investment may not drop at all.

As a matter of fact, some of these categories may rise. New data just released by the Bureau of the Census indicate that the housing market has been much stronger than published reports had previously suggested. Family formation has been proceeding at a higher rate than anticipated and demographical data suggest that this high rate may continue for at least another year or two. Births are continuing to rise. This puts pressure on families to obtain bigger and better houses.

Although the rate of growth in the consumption of electricity has declined, growth is still present and the utilities are continuing to expand their capacity. The somewhat easier financing terms expected in 1958 will facilitate this to some extent.

When we turn to trends in inventories we find further interesting comparisons with 1949 and 1954. Nonfarm inventories rose at a fairly good rate through 1948 and declined sharply in 1949. They rose sharply in 1952 and moderately in the first three quarters of 1953, but declined sharply in the fourth quarter of 1953 and the first three quarters of 1954. In both 1949 and 1954 inventories grew until the recession began.

Final consumption rose during 1949 but it took a year to bring inventories down to the point where firms started rebuilding them.

In 1954, consumption was as high as it had been in 1953—appreciably higher, in fact, in the latter part of 1954 than in the latter part of 1953—but again it took a year of living off inventories to build business confidence to a point where firms were again willing to produce for inventory.

In the present cycle, the rate of inventory accumulation reached its peak in 1956—not 1957. Inventory growth was negative in the first quarter of last year and positive by only modest amounts in the second and third quarters. Liquidation was fairly sharp in the fourth quarter.

So we are entering 1958 with most business inventories (except those of concerns with direct or indirect defense business and possibly some auto inventories) in a better position relative to sales than they were at the beginning of 1954.

Consumption is now again appreciably ahead of production. Inasmuch as most inventories are not as

high now relative to consumption as they were at the onset of the last two recessions it may not take a year for business firms to start again producing at a rate equal to current consumption. Unless the recession snowballs, production may equal consumption about the middle of the year. This would be slightly sooner than in 1954 but later than in 1949.

Government spending

A second argument which we used to hear frequently explaining why a recession was necessary in 1958 was based on the expectation that government expenditures would drop. This expectation is no longer held. It is generally agreed that federal expenditures will not decline much, if at all, after the current quarter and that state and local expenditures will rise in 1958. Total government expenditures for goods and services hovered between \$86.5 and \$87 billion in the last half of 1957. They now are expected to total \$90 to \$91 billion by the last part of 1958. Social service and wage payments will increase appreciably, too.

But it is difficult to appraise the impact of government expenditures on the economy. Government expenditures rose markedly in 1949 and declined markedly in 1954. So, in one instance, recovery presumably came with government aid. In the other, it came without it. The fact that government expenditures are expected to increase this year at least gives no grounds for pessimism.

It is worth noting, however, that some of the increase is coming in areas which will require new capital investment while some—such as highway expenditures—will come in areas where productive capacity is fairly adequate.

These increases in government payments may be expected to have relatively minor secondary effects on capital expenditures generally, although the decline in federal expenditures in 1957 was one of the important reasons for a drop in machine tool orders and investment in certain transportation industries. The anticipated rise may halt this drop.

Another comparison of governmental operations with what happened in the two previous recessions is worth noting. Taxes were cut in both 1948 and 1953. Personal tax payments dropped by about \$2.5 billion from 1948 to 1949 and by about \$3 billion from 1953 to 1954. Corporate tax payments dropped \$2 billion in 1949 and by \$3.5 billion from 1953 to 1954. The net effect of reduction in taxes and increases in either government purchases of goods and services or other types of payments to the public was a net increase of \$8.8 bil-

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lion of federal payments to the public in 1949 over 1948 and of \$6 billion from 1953 to 1954. There may be no comparable shift in 1958. Federal receipts from the public exceeded payments to the public by \$5.5 billion in 1956. They were roughly matched in 1957; that is, net payments to the public were from \$5 to \$6 billion higher in 1957 than in 1956. The rate of net federal payments may increase another \$3 or \$4 billion in 1958 from 1957 levels.

While legislation cutting taxes was not passed in 1957 as it was in 1948 and 1953, leaders in the Congress are studying the need for tax cuts should the recession turn out to be more severe than anticipated. Plans are available which would make it possible for Congress, the Executive and the Bureau of the Budget to move rapidly should conditions warrant. Tax relief could come more quickly than is generally realized.

Prices

A comparison of price patterns in 1948 and 1953 with the price patterns of 1957 is also in order.

Consumer prices went up over 7.5 per cent in 1948. Wholesale prices went up more than eight per cent. Both retail and wholesale prices were relatively steady in 1953 although farm prices dropped sharply. Retail prices rose nearly three per cent in 1957 and wholesale prices about one per cent.

One cause of the recession in 1949 was the fact that the economy had to adjust to new price levels, commodities had not risen in a balanced fashion. Some prices had risen more than the market would accept, others had not. A new adjustment at the new levels was needed. Something of the same sort happened in 1953 but on a smaller scale because prices after Korea rose less than after World War II. Adjustments were needed both between wholesale and retail, and within sectors.

The 1957-58 position resembles the 1953-54 position more than the 1948-49 situation. It is probably stronger than it was in 1953-54. Many price adjustments were made throughout 1957. The sensitive commodities index, for instance, fell to the lowest point in eight years, while other prices have inched upward.

Many prices, however, have tended to remain high, in considerable part because firms feel that these

higher prices are necessary to finance the expansion of capacity which they believe the economy requires. The money from the higher prices is, therefore, being plowed back into the industry and the economy, paying for labor and materials. The higher prices are not taking money from the economy. The economy is adjusting to these prices, rather than these prices to the economy.

Production-consumption

Total production has not dropped as sharply from the high point reached in 1956 as it did in 1949 or in 1954. Declines in specific segments have been as great as in previous years but the total of all these adjustments has represented smaller over-all adjustment so far than in the preceding periods.

This means that, if an adjustment in production of the same magnitude as those of 1949 and 1954 is to occur this time, further declines are in prospect. However, such declines would necessitate either an increase in consumption from inventories or a reduction in total consumption.

Since industry was already making adjustments to capacity requirements as well as to prices in 1957, fewer adjustments may be needed in 1958 than were needed in 1949 or 1954. The strains on the economy from such adjustments may be considerably less than in the two preceding recession years.

Total consumption does not seem to be declining; it rose in each quarter in 1956 and rose or held steady in each quarter of 1957. It has been providing as strong support to the economy as it did in either of the previous two recessions. In 1949 final consumption was roughly 3.5 per cent higher than in 1948; in 1954 it was as strong as it was in 1953. In view of the fact that final consumption held constant despite the high inventory liquidation of the fourth quarter, it is possible that final consumption will remain at nearly peak levels in the first and second quarters of 1958, as it did in 1949 and 1954. In other words, final consumption may do at least as well in 1958 as it did in 1954. If it behaves as it did in 1949, this would put real pressure on many inventories in the first part of 1958. It may, therefore, be difficult for inventory liquidation to increase in the first part of 1958.

And, as governmental expendi-

tures and transfer payments will increase somewhat in the first part of 1958—possibly by as much as the anticipated decrease in fixed investment—total consumption may remain strong during the adjustment period of the next six months.

Consumers

This brings us to the final major segment of the economy, consumer expenditures. The patterns of 1948 and 1953 were not repeated in detail in 1957 although, in general, the patterns were not dissimilar. Expenditures on durables rose sharply in 1947, flattened out in 1948, and rose again, but less rapidly, in 1949. Families were not equipped with autos, refrigerators, dish-washers and other durables by 1949 and continued to buy relatively freely.

Sales of consumer durables rose just as sharply from 1952 to 1953 as from 1947 to 1948 but they leveled off somewhat more in 1954 than in 1949. The rise from 1953 to 1954 was only about half as much as the rise from 1948 to 1949.

Sales of durables rose little from 1956 to 1957. Consumers had become relatively well supplied by the end of 1955 and they continued to buy at relatively steady rather than rising rates in 1956 and 1957. There is no backlog of demand to support a rise in 1958 comparable to that which existed in 1949.

A rise comparable to that which occurred in 1954 may be possible, but it will come only if industry promotes its sales vigorously and well. After a two-year lapse in the rate of growth, particularly as the housing market may be stronger in 1958 than in 1957, it seems possible that consumer durable sales may match or nearly match the 1954 pattern in 1958.

Consumer purchases of nondurables followed quite a different pattern than those of durables in 1949 and 1954. Nondurable sales rose slightly in 1948 and again in 1949 on a constant though not a current dollar basis. On a current dollar basis sales rose about six per cent from 1947 to 1948 and declined slightly from 1948 to 1949. From 1953 to 1954 nondurable sales rose on a current and constant dollar basis, but only by about one per cent.

Sales of nondurables rose from 1956 to 1957 at about the same rate as they did from 1947 to 1948 or from 1953 to 1954. The market in 1956 was affected by the high volume of sales in 1955. As it has been more than two years since the 1955 spurt, a rise in the sale of nondurables seems possible in 1958. Many firms expect increased sales.

It is hard to handle consumers'

expenditures on services. The imputed value of services, such as the rental value of owner-occupied homes, does not get into the cash flow. The services component, as reported by the Department of Commerce, may rise during a recession at nearly the same rate as it rises in prosperous times. The services component on a constant dollar basis rose more than three per cent in 1949 and about the same percentage in 1954. It probably will rise by about as much in 1958. The cash expenditures in the services component may not rise by three per cent but they will rise.

Differences between 1958 and 1949 and 1954 however, do exist. Consumer demands for durables particularly were more pressing in 1949 and 1954 than they are today. Government support was relatively stronger in 1949, though not in 1954, than it will be in 1958. Fiscal and credit policies gave more support in both the preceding periods than they give today.

Policies of the Federal Reserve Board and the Treasury were more liberal in 1948 than in 1957 and the Federal Reserve Board relaxed its controls more in 1953 than in 1957.

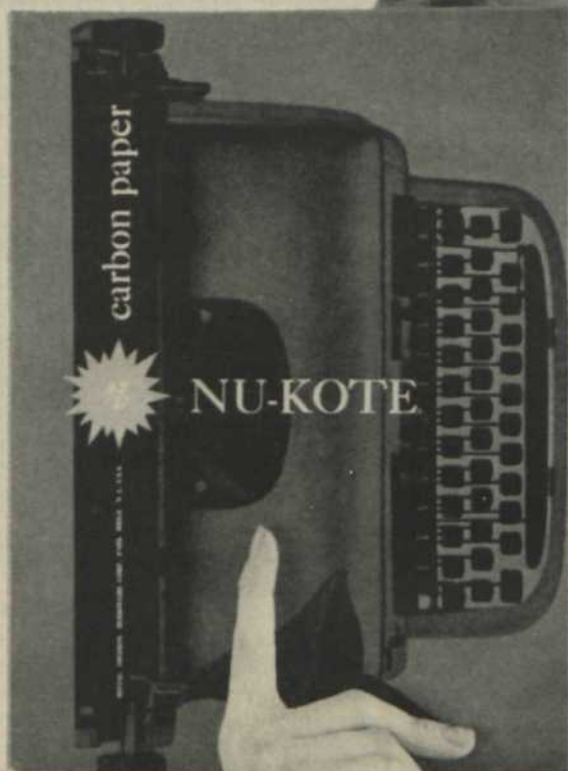
The policies of the Federal Reserve Board made credit more expensive and reduced the total volume available in 1957. This had a two-fold effect.

First, it eliminated some of the marginal demands for credit.

Second, it made credit harder for small firms to get because the overhead in handling credit in small amounts may raise the cost of such credit to uneconomic levels. Small business and home building, therefore, have been affected by Federal Reserve policy, not directly but indirectly.

Relaxation of credit terms by the Federal Reserve Board may not increase borrowing by large corporations, public or private, to a great extent at least, in the immediate future, but such action should make it easier for marginal borrowers, such as smaller public agencies, small business men and home builders to obtain credit. Small business and home building were among the first to be affected by the slowing down of the boom in 1955. They can easily stand some help in 1958. The probability that they will be able to re-enter the market more vigorously is one of the reasons that investment may not drop as sharply in 1958 as some have feared. And because the Federal Reserve Board is watching the situation so carefully it is highly improbable that credit conditions will provide depressing effects in 1958.

END



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An industry needs answers to these three questions if it faces adjustment from rapid to a slower growth

we did over a 15 year stretch. During the '20's, highway construction grew at an annual rate of 10 per cent. From 1947 to 1954 it grew 11 per cent in constant dollars.

But from 1953 to 1954 the volume increased from \$2.85 billion to \$3.68 billion, or 29 per cent.

On the conservative estimate that it takes 50 cents' worth of equipment to turn out \$1 worth of highway work a year, the 1954 program required about \$1.84 billion in equipment compared to \$1.42 billion in 1953. Assuming an average life of five years for construction machinery, the industry needed to spend another \$700 million for replacements in 1954.

Had highway building grown another 10 per cent in 1955, the industry would have needed to spend another \$200 million for new equipment and approximately \$800 million for replacements.

But in 1955, 1956 and 1957 highway building increased only 3.5 per cent. The industry, however, continued to buy equipment to handle a 10 per cent growth. As a result, both the highway builders and the machinery suppliers are equipped to handle far bigger jobs than they have faced in the recent past.

The new program should really begin to show results this year. If it increased construction by \$600 million, this will be by about 10 per cent—the old rate of growth. This will require no greater rate of growth in the supply of labor, materials and machinery than we have experienced in the past.

Putting this growth in perspective with the rest of the economy, we find that a \$5.5 billion highway outlay for 1958 will be no bigger relative to our approximately \$450 billion economy than was the outlay of \$1.3 billion in 1929 relative to the \$104 billion economy of that year.

When big plans are announced, businessmen need to take a cold look at the existing and scheduled potential to handle those plans in the light of the probable time problems these new plants must face. It is quite possible that rapid growth in a particular segment can be handled by normal growth in many of the supporting industries.

There will be some exceptions.

The highway program required an expansion of engineering services far beyond the normal capacity of the profession. This required a revolution in engineering techniques: use of photogrammetric methods, use of high speed computers, and so on. Small segments of particular industries, but not the construction industry as a whole, had to expand sharply. The businessman who outpaces his peers must find whether his company is actually among those which must expand sharply.

Source of growth. How does an industry adjust from rapid to slow growth as the easy markets are captured?

Any industry which has passed through a period of relatively easy growth is likely sooner or later to have to face this question. It is important, therefore, for a rapidly growing industry to know three things.

First: How much of its growth is due to new markets for which there is little competition, and how large are these markets in potential volume and time.

Second: How much of the market is being obtained at the expense of competitive materials, products or industries.

Third: What is happening to the competitive gap which has enabled the industry to take business away from others rather than create new business.

The recent experience of the brick industry shows the need for such knowledge.

After World War II this industry grew rapidly. Facts gathered annually showed that much of this change was due to penetration of markets previously held by others. People wanted and could afford better and more attractive homes and brick was a symbol of such a home.

When the market was expanding, other building materials could grow in spite of the competition from brick. But when construction volume dropped a couple of per cent, competitive materials could maintain their volume only if they stopped the inroads from brick. They began to show builders how to put up attractive houses with sometimes cheaper materials. The brick industry, which

had expanded in 1955, found itself facing tougher competition.

Increase of penetration requires particularly difficult and continually increased effort.

That is why it may be fairly safe to project the growth of an industry as a whole, but not of one particular material or product.

If projections are made in detail, the new markets may not be known, and the competition for the old markets may not be properly appraised. If frozen foods capture some of the canned food market, it is easy to see that this will mean a decline in sales for cans. It is harder to judge how fast cans will be used in as yet uncaptured markets.

Neither is it safe to project trends unless the detail behind the trend is known. How much of potential new business is entirely new business never before had by anyone? How much is business gained at the expense of someone else? When the two curves are projected separately, the resulting trends may be significant. When the resultant of the two is projected as a single curve, the implications may be dangerous.

The sale of frozen foods grew both because they replaced some canned goods sales, and because more families were buying prepared fruits and vegetables. Sales grew by about 15 per cent per year from 1938 to 1956. With the population expected to grow in the future by less than 1.5 per cent per year, frozen foods sales probably will not continue to grow at a 15 per cent rate. If they did, per capita consumption—which reached about 30 pounds a year in the first 20 years of the frozen food business—would approximate 485 pounds per year, or more than a pound per capita per day, in the next 20 years.

Obviously, in analyzing the market, the new markets being obtained as a result of growing population and growing incomes must be examined separately from the market being obtained at the expense of the sale of canned or fresh foods.

Growth and prices. Growth is, of course, a function of actual and of relative price. In some markets for varying periods, price may be unimportant. Cryotrons, tiny special metal superconductors, are so urgently needed in satellite and missile production that cost is unimportant. But sooner or later, and usually sooner, price becomes important. If it is held high, it delays the creation of new markets and may prevent the capture of old ones. It may well encourage competitors to duplicate or improve upon the new product or service.

In such industries as chemicals, in

which progress is marked, the life of a particular new product may not be expected to exceed five or six years. In that case plans will be made before the chemical is produced which call for earning a good profit and retiring the investment from earnings after taxes, within five years.

In most industries, the capital required is so great and the life of the new product is such as to encourage a more modest rate of return and one which may discourage the entry of tremendous new capacity.

In general, the greater the rate of progress anticipated, the greater capital outlay required to sustain the growth anticipated, the higher the price that may be set for the goods or services produced.

But the greater the rate of growth anticipated, the more dangerous it is to attempt to obtain the high margin of profit. There must be a compromise here between capital requirements for growth, or to replace obsolescence, and the danger of too much additional capacity encouraged by apparent high margins and future prospects.

The aluminum industry, for instance, held its prices down and dropped the price from time to time from 1900 until 1942, when costs for new facilities and new power sources made this policy no longer feasible. Technical progress was expected to be moderate, but the growth of sales seemed likely to be great. So it was to the general advantage of all to keep prices moderate.

A similar decision was made for cellophane. In both cases the rate of growth seemed promising and the rate of obsolescence of manufacturing methods seemed likely to be modest. If, however, the rule that rapid growth should encourage low prices is ignored, in the absence of unusually heavy capital requirements or rapid technological progress with its concomitant rapid obsolescence, competition will usually tend to correct the situation.

So, whether by design or by competition, growth without unusual obsolescence, or other heavy capital requirements, may be expected to encourage competitive prices. That is a healthy fact. It is also one that should be remembered by businessmen who examine the future of specific new fast-growing markets.

The future of fast-growing markets may be difficult to predict, because the analysis must estimate the new market and the penetration of old market aspects. The analysis may be difficult also because unpredictable detailed factors may affect the markets. Although the male and female population have grown at about the same rate, fewer men's



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GROWTH IS UNEVEN

continued

The market makes fewer mistakes than planners

suits are being sold now than were marketed 30 years or so ago, but the sale of separate trousers has grown at a rate of four per cent per year. The sale of women's suits has grown about 10 per cent per year, and of women's skirts 14 per cent per year in the past 30 years or so.

The sale of asphalt siding has dropped sharply, while the sale of asphalt roofing has risen. The sale of electric ironers is down while the sale of electric irons is up. Growth requires a combining of many favorable factors. It is not easy to predict how those factors will develop, nor to sustain growth once the factors have been identified.

This is a cost of democracy. The market place decides what is wanted and at what price. Careful market studies reduce but do not eliminate the differences between forecasts and actual experiences.

But the cost of our somewhat erratic type of growth patterns is actually far less than the cost of controlled growth. If planners were allowed to dictate the amount of growth demanded or promoted in specific industries, their errors would be greater than the errors of the market place.

As Russia has just discovered, it takes longer and costs more to reverse or modify centrally made decisions than to modify or reverse the multitudinous decisions of the market place.

Our economy grew faster than the Russians', in general, when it was as backward as the Russian economy now is, because our ancestors found errors promptly and locally, and corrected them where they found them. Russia can divert energies to a specific goal, such as to rockets, at the expense of consumers or of any other segments of the economy it wishes to rob, but Russia has not succeeded in obtaining as great an over-all growth with central planning as we get with decentralized decision-making based on consumer control.

Our consumer oriented, democratically controlled economy will, therefore, continue to grow at uneven, pulsing, but hopeful rates.

—ROBINSON NEWCOMB

BRAINPOWER TESTS

continued from page 41

Any machine made
is a slave to
a human brain

be found in the world, which enables man to smash atoms, heal the sick, educate the young, build great organizations, and put sputniks in orbit.

The problem of automation in American industry is a case in point. There is a growing fallacy that we are building giant brains in this country. But thus far, no machine, electrical or mechanical, has been invented which is not a slave to a human brain.

Such machines do what they are told to do by the programmer who directs their operations.

The introduction of automatic processes appears to upgrade the level of brainpower required to communicate and program these increasingly complicated and technical machines.

Would you say that automation will create problems for individuals trying to adjust to it?

It already has. I have just been attending a course of instruction on Univac, which is to be installed on this campus. The problem of dusting out my mathematics and electronics was not inconsiderable. I fully anticipate that the amount and availability of high-level brainpower may be a determining factor in the rate at which automation can be introduced into manufacturing operation.

Would your tests be useful in increasing development of our scientific knowledge?

They may do so in two ways. First, as a research instrument. They have already proved that important information about the brain can be discovered and confirmed.

Second, they may enable us to study the brainpower characteristics of creative scientists to discover the common factors that underlie their success. We could then look more knowingly at our young men and women in terms of their capacities to be creative scientists.

You feel that those who have the capacities could be channeled so as to be most productive?

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Tests can show aging of one's brain as a better index than years of age

quires much good information. Insofar as our testing procedures can produce sound information about the factors that contribute to creativeness in society, they can be so used.

What higher brain functions does the Halstead Battery measure?

There are four of them: judgment, power, perception, and memory.

Judgment has to do with reasoning and decision-making. This function is crucial to maintenance and effectiveness in activities involving analysis, appraisal, choice between alternatives and high quality decisions.

Power has to do with motor and mental energy and drive. This function or factor is behind the individual's intellectual drive in carrying on the process of thinking without being deterred by irrelevant considerations. The waxing and waning of this factor throughout the day produces the good and bad spots in the judgment curve of the individual.

Individuals are not equally smart throughout the waking hours of each day. Some persons make their best decisions around 10 o'clock in the morning and are quite capable of becoming frustrated if faced with similar decisions late in the afternoon.

Perception has to do with verbal, visual, auditory and temporal aspects of the environment. An individual may be able to grasp the essence of written data or verbal reports with great efficiency, yet lose important information or miss essential implications in a subsequent discussion or conference.

Memory has to do with organization, form, place and relationships. This factor is the coordinating, organizing and recording aspect of the brain. An effective executive, for example, integrates, clarifies and stores all types of information more or less automatically. He does so in a way that is vastly superior to any filing or contrived system that has ever been invented. Without this facility, the brain would, in effect, be born anew every morning.

Did you say brainpower varies with the time of day?

Brainpower appears to fluctuate in each individual. It is much the same in principle for the adult as for that well behaved, delightful, five-to-nine-year-old who, before meal time or after staying up too long, regresses

to an irritable, refractory, difficult, rebellious child.

Our physiology seems to energize our adult brains on a cyclic basis. Not many business executives could be at their best late in the evening, for example, when the television star must achieve his greatest effectiveness. Intellectual work tends to come in relatively short bursts of high-level activity.

The student, the professor, or the business executive is often surprised to discover, after plowing through a series of long technical reports, that he got a lot done during a short period of time. This means that his brain was functioning at a high level automatically.

He can force himself to continue but he will soon find that he is reading and rereading the same material with progressively lesser yield in understanding.

For top-level intellectual work, where difficult decisions must be made, the individual should know his periods of peak effectiveness and exploit them.

Sound programing of each day's work not only exploits peak brainpower output but interspaces routine activity wisely to fill in the gaps between these peaks. This is the kind of rest a brain needs. Without such sound programing, many high-level business executives find that a vacation does not help.

Can brain impairment be prevented or minimized?

Yes, to some extent. Although medical science does not yet have clear-cut evidence that it can retard cerebral vascular disease, several studies directed toward this goal are underway.

Our test findings seem to indicate that, unlike most of the tissues of the body, the brain does not inevitably age in everyone in the sense of deterioration.

Even when the brain is damaged directly through accident or disease, much hope can be offered through expert medical diagnosis and treatment with appropriate drugs or even with operations.

I have studied many high-level people who have had even radical surgical removal of part of the brain and have observed them able to carry on at a good level. The concept that a man is through just because he has brain impairment is wrong. Early

detection and proper management of such individuals can minimize the incapacitating effects.

Dr. Loring Chapman and Dr. Harold G. Wolff at Cornell Medical Center in New York have found, however, that the chronic stress of daily living can build up in some individuals to the point where the impairment of functioning is virtually indistinguishable from brain impairment. Obviously, sound mental hygiene, if established early enough, could help minimize such negative influences in these people.

Do you have some helpful tips?

Yes.

1. Regular and thorough physical checkups, beginning at least by middle age.

2. Regular checkups on higher brain functioning by methods such as we have been describing.

3. Developing a program of daily living in line with sound principles of mental hygiene.

4. Diversifying your emotional investments so that there is at least one strong hobby or avocation that not only relieves stress and tension but can make the retirement years truly golden.

5. Leaning heavily on the Golden Rule.

Will you explain the Halstead Battery of neuropsychological tests?

The Halstead Battery consists of 10 different apparatus tests, each of which has been found to be sensitive in detecting brain-injured individuals in contrast with normal individuals. The tests measure what I term "biological intelligence," or general adaptive capacity.

The testing takes a total of two to three hours. Only objective quantitative measurement and scoring are utilized.

The tests are readily administered and are interesting to take. By use of controlled test stimuli that may be visual, auditory, tactual, etc., systematic information is made available to the brain and responses are scrutinized for distortion of such information.

Distortion in the four higher brain functions you spoke of?

Exactly.

You have invented a device for making this test?

Yes, we have now consolidated all of these 10 tests into one piece of apparatus. We have two of these in operation at present. One is at Indiana Technical College in Fort Wayne, and one at Clifford Berg Associates in Rockford, Ill. The design has been standardized and is being manufactured for installation under my

supervision in other centers. In much of this activity we have been working closely with our Industrial Relations Center.

Are there various degrees of impairment?

Yes. Our scale provides for 11 steps in our impairment index. Actually, we do not regard the measured impairment as significant until 60 per cent of the test findings overlap the performances of people known to have brain damage. We are thus conservative in interpreting brain impairment.

When the 60 per cent overlaps, is that the danger point?

We regard that as the danger point. I might say that we are probably all destined to reach testable impairment some time during our life span. We can always hope that it will be postponed until that hour before death, but many of us are not so fortunate.

Might these changes be unknown to the person?

Yes, many of these changes may occur unknown to the individual and often enough may not have been noticed by his physician.

Would you say that everybody has some impairment, or almost everybody?

No, at least not in terms of the sensitivity of our battery of tests.

What percentage of persons show no impairment at all?

Five per cent of our individuals through an age range of 14 to 65 years show no measurable impairment in higher brain functioning. These individuals tend to be highly creative members of society. None of their scores overlaps the performances of individuals known to have brain damage or impairment. Actually, except for high-level positions, I do not get concerned about brain impairment until my index reaches 60 per cent overlap.

Could you tell us more about how your tests may be used?

The Halstead tests may be properly used at present:

1. To determine the physiological functioning of the brain and the conditions and effectiveness of the higher brain functions.

2. To indicate areas of strength and power in the brain, as well as those where impairment may be developing—a kind of audit of the assets and liabilities of higher brain functioning.

3. To compare an individual's chronological age with his true biological age, which is a more accurate indicator of the status and maintenance of the brain.

END



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EIGHT SKILLS

continued from page 35

individual proprietorships successfully are participation and communication.

People who are to be held accountable for results must be given an opportunity to participate in the decisions that establish the conditions under which they work. Professional managers provide for this consultation by asking the suggestions and recommendations of their subordinates on matters that concern them. This is time-consuming and, at times, difficult.

But only in this way can subordinates feel they are really part of the team and not automatons. Consultation, when developed as a management skill, helps loosen the creative ideas and the best energies

delegate only to the limits of the control system within which he works.

Basic to effective control is the development of valid and meaningful yardsticks to measure performance. In the past, such yardsticks have often been rather haphazard. One company, for example, awoke one day to the fact that the only way it could tell whether it was making progress was by watching its bank balances at the end of the month.

Another company went on for several years, blissfully surveying a steadily mounting sales curve, only to find, with a jolt, that real profits had been decreasing.

The heart of a control system in the professional management concept is first, performance standards that enable managers at every level to measure their own progress and to report it to higher levels in con-

derstood and accepted by those whose work is being measured. Once acceptance is accomplished, a recording and reporting system is instituted to measure actual performance and to compare results with established performance standards.

The objective now is to see to it that every accountable manager receives reports which will quickly identify variances for him. This enables him to review those factors which are proceeding according to plan and to focus his energies on out-of-line conditions.

Control is not only a matter of top management concern. Control tools should be provided at every level so each manager can identify and correct his own variances. The lower in the organization corrective action can be initiated, the faster the action takes place and the more upper levels of management are freed for creative planning.

Carrier Corporation has a comprehensive reporting system that keeps every member of management constantly aware of his financial and operating status. Even the construction superintendent working out in the field on a new project receives up-to-the-minute reports which highlight his actual costs as compared to his estimates.

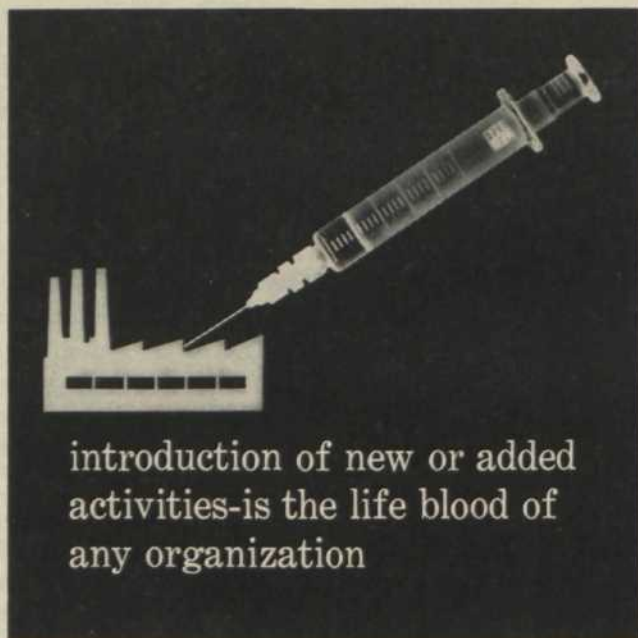
Ford Motor Company records and reports significant data to each management level.

The foreman, who is accountable for use of materials, machinery and manpower, gets reports on direct labor, indirect labor and material usage.

A division manager in Ford, who has profit accountability for the operation of one segment of the company's business, is concerned primarily with reports showing performance against plant profit budgets and forecasts, product costs, plant costs, and a review of his financial and operating results against established plans.

At Ford the manager is also measured on his ability to develop qualified managerial, technical and professional personnel. Once each year, in conjunction with the presentation of profit plans and administrative budgets, the performance and potential of key personnel also is reviewed.

Professional management is based largely on these skills. While every manager must be proficient in them, it is important to note that the higher we go up the executive ladder, the more we find managers concentrating on two aspects that are characteristic of executive positions—innovation and final decision-making. Here again is a cue for the manager who wishes to climb to the



of people once content to plod along doing as they were told.

In Esso Standard Oil Company employees are invited to discuss matters affecting them, and their views are given full consideration in working out problems. This not only ensures better understanding and acceptance, it also provides for better decisions because they reflect the views of those directly concerned.

Control

The unique skill required of professional managers is the ability to evaluate and appraise work being done under their direction without the need for close personal supervision. This ability is the true gauge of a manager's scope, because he can

cise terms. Significantly, the best performance standards are the goals, programs and budgets which managers first establish to plan and guide their work.

For a manufacturing operation, standards may include such factors as units produced by product, direct and indirect labor and materials costs, raw material, in-process and finished goods inventories. Sales performance standards may include sales and gross profit by product. Engineering progress may be judged by standards based on status of work completed against program, direct and indirect costs of project work, costs of estimating and proposals, and so forth.

Effective standards must be un-

top, for in these two skills we find the quintessence of executive action.

Innovation

Innovation—the introduction of new or added activities—is the lifeblood of any enterprise. Maintaining the status quo is always a holding action and seldom results in a front-running company. The professional manager creates market and product leadership by generating new concepts and approaches himself, and by seeing to it that every possible new idea generated by his subordinates is given careful consideration.

Innovation depends in large measure upon releasing and encouraging the creative energies of people. The professional manager helps to create the necessary environment by stimulating and encouraging his subordinates to differ with accepted ways of doing things and to come up with constructive ideas for improvement. Only when a premium is placed on originality and initiative can true innovation exist.

Decision-making

The one skill that most clearly differentiates top-ranking from lower-rated managers is the ability to make decisions. This is not simply a matter of demonstrating good judgment; rather, it involves skill in fact-gathering, analysis, and in choosing among alternatives. Decision-making cannot be performed in total by single individuals. The decision itself is an outgrowth of the work of a great many people, each concerned with gathering and interpreting data related to his own functional interests. The professional manager remains sufficiently aloof from this process to be able to weigh and evaluate the alternatives presented to him in terms of the objectives of his group as a whole.

Before a manager can take the last step in decision-making, he must organize his subordinates and the specialized staff serving him so that they can effectively collect data, and make recommendations.

These research findings provide us with a new and integrated concept of the management job. It is in these areas that the individual with executive ambitions should focus his efforts at self-development. The more he can perfect the skills which are basic to professional management, the more he can qualify for greater responsibilities and a larger pay check.—LOUIS A. ALLEN

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EXECUTIVES CAN SIMPLIFY THEIR JOBS

Here's how managers can benefit
by time and motion study methods

YOUR WORK, despite its scope and complexity, probably can be made easier than it is now. So can the work of your employees.

You can simplify your job and theirs by applying some of the principles drawn from time and motion studies of factory workers and clerks for many years, plus more recent findings.

This is not to suggest that such responsible management functions as planning, decision-making and motivating subordinates can be reduced to a simple formula. Traditional work simplification practices are

most effectively applied in manual and repetitive jobs.

"Work simplification can be applied at all levels," says William R. Mullee, professor of industrial engineering, New York University. He is a pioneer in work simplification. In the broad sense, he says, "it involves the search for better and easier ways to do all jobs."

A number of executives who have used work simplification practices agree. "It becomes a philosophy," says Louis Webster, financial vice president of Thomas J. Lipton, Inc., "in which you look at your job in a

new way and use your initiative to simplify it."

Jeremiah Wolfe, assistant vice president, The Bank of New York, notes that executives normally give hearty endorsement to work simplification programs for supervisors down the line, seeing potential cost reduction and streamlined operations. But when it is suggested that the executive might benefit from the program, "he's likely to do a double take, insisting he's too busy. The fact that he feels he is too busy may mean that application of work simplification principles to his daily routines might lighten his load."

Professor Mullee and Professor David B. Porter, also of the NYU Engineering College, have conducted the university's Work Simplification Roundtables since 1947. They have trained representatives of hundreds of organizations to set up work simplification programs at their companies resulting in millions of dollars in savings. Both men spent many years in industry before joining the NYU faculty.

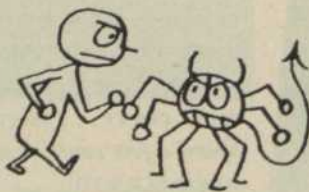
"Work simplification," says Professor Mullee, "can be an important factor in improving the product or service and reducing the unit cost. It provides a medium of participation for workers, but it must have the solid support of top management."

There are four major obstacles to

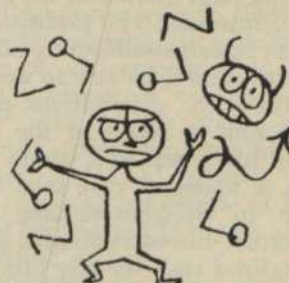
Loads are lighter when you use this approach



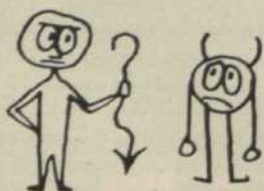
Look at job in new way



Pick a problem



Break it down into details



Question each detail



Develop a better way



Apply improvement

work simplification that must be overcome, Professor Mullee points out. They are: resistance to change, resentment of criticism even though constructive, insecurity caused by belief that simplification will change one's job and require different skills, and complacency about the way a job is now being done. Once an environment for work simplification is established, Professor Mullee says, a five step pattern can be applied to your work:

1. Pick a job problem. The idea is to pick a function or action involving quite a bit of time and energy, that may be slowing up your work, or your employees' jobs.

2. Break it down into the details. This means dissecting the parts of the job or procedure so each can be analyzed. An executive can draw up his own work distribution chart, Mr. Wolfe of the Bank of New York suggests. "Analysis of such a chart is worthless, however, unless the individual approaches it with an open and questioning mind."

3. Question each detail. At this point, you can ask such questions as: Is the activity and is each step necessary? Why? What is its real purpose? And what would happen if I stopped it? Where should it be done? Why? Could it be done elsewhere? Who should do it? Could it be done by a subordinate? When should it be done? Why? How often? How much checking am I doing? Is this much necessary?

4. Develop a better way. Here's where ingenuity comes in. It will probably require consultation with and suggestions from others, and test runs to determine the practicality of the change and to make sure quality is maintained. New methods might be achieved by eliminating steps or actions, combining functions, re-arranging sequences, changing time, place or persons and using new facts, substitutes, procedures or tools.

If the executive charts his activities and finds, for example, that much of his normal day is consumed dictating letters, Mr. Wolfe suggests he might ask himself: "Why do I dictate at all?" Though some letters must be dictated, others are of a stereotype nature. "The stenographer need only fill in amounts or dates and facts and prepare the letter without taking dictation. Form letters or sample letters your secretary can copy might be a way to simplify your job," Mr. Wolfe points out.

"In some cases," he adds, "why write a letter at all? Why not telephone? In many cases, a telephone call will give a customer quick, per-



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EXECUTIVES CAN SIMPLIFY THEIR JOBS

continued

**Simplification begins
only when you
have overcome**



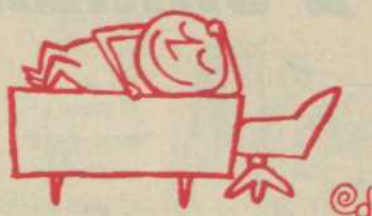
Resistance to change



Resentment of criticism



Insecurity



Complacency

sonal service that is more impressive and appreciated than any letter could be. It saves time and money, when you consider the average business letter costs \$1.50 to \$1.70."

5. Apply the improvement. "If you have done a good job on the first four steps, the fifth one will be accomplished easily and naturally," says Professor Mullee. Work simplification, he adds, must always be integrated with company policy. Employees will cooperate fully only when they feel their personal security isn't in jeopardy. So it's necessary to reassure employees they won't lose their jobs because of methods improvements, he adds. No one can guarantee employment, except the customer, of course, but every effort should be made to avoid personal insecurity, he urges.

Besides seeking full participation, give credit, and standardize and follow up regularly to see that the improvement is working, the professor advises at roundtable sessions.

At Esso Research and Engineering Company, one of the many companies to take advantage of these NYU roundtables, the work simplification program is called operations analysis. After two years, the program is saving the company about \$3 million annually, officials say.

There is no actual training program for top executives, but they are interested in it and apply the principles where possible, a company spokesman said. For instance, Executive Vice President E. Duer Reeves adopted a simplified business letter form with all elements flush left. He figures it makes a 10 per cent time saving in typing letters.

To date, 118 company scientists and engineers, most of them supervisory personnel, have had work simplification training. Here are some ways the company has applied the training:

A company-wide campaign to use dictating machines had reduced time spent on business correspondence by 60 per cent in some divisions. Before being persuaded to dictate letters, the men wrote them out in longhand for stenographers to type. Now they use either portable, desk types or central recording units tied into the telephone system whereby a man can dial a special extension and dictate a letter into the phone.

The time devoted to reading trade journals—of which there are now hundreds in the scientific field—has been cut down for Esso scientists and engineers by having certain members of a section review incoming periodicals and report main points of interest to others.

Just as work simplification prin-

ciples of standardizing, substituting and specializing are being applied at Esso Research and Engineering, the practice of batching can often be applied to jobs or work routines to cut time and cost. In one unit of a utility company, for example, managers found that data for a report on 250 trucks and cars was processed daily. When they questioned just when the data was needed, they found it could be issued monthly instead of daily. By picking a period of low activity in the month the work load in the department could be better balanced, too. Through batching the data and reporting monthly, the unit saved \$4,000 a year, Professor Mullee reports.

Lipton's Mr. Webster found through applying steps in the work simplification formula that a procedure under his direction could be changed greatly. It involved the regular purchase of the fleet of company cars, used mainly by the sales force.

Formerly about 100 orders a year requesting money to buy the autos had to be approved by Mr. Webster and other executives. Further approval was required of about 100 purchase orders when the cars actually were bought, and again when they were sold. After analyzing the situation and questioning the steps, Mr. Webster decided that since about the same number of new cars was bought each year, it wasn't necessary to give an okay on each new car.

He decided that approval of approximately 100 separate orders requesting funds, and for purchase and sale of each auto, could be reduced to two blanket orders for buying new and selling old cars and the exact expenditures and receipts could be totaled at the end of a year.

Hundreds of man-hours of work for the chart department at Lipton's were saved when the manager of one of four branch plants questioned a report and realized it was not needed. The branch plants had been submitting cost data to the home office in Hoboken on a regular basis. Then the home office summarized this information and sent reports to the branches so they could see how they compared with each other.

In addition, much of the same information was sent out later in chart form. Since the branches already had this information in only a little different form, it was decided the charts in the cost series could be eliminated.

In scores of other organizations, hundreds of thousands of dollars are being saved through the five-step analysis of jobs and work programs to make them simpler. **END**

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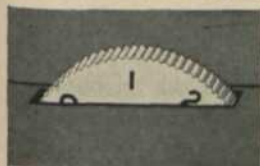
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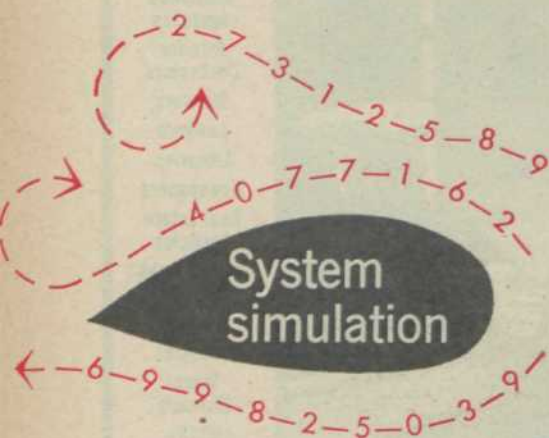
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A management
wind tunnel

A NEW MANAGEMENT TECHNIQUE is enabling many companies to experiment with and test certain types of policy, procedure and organization changes in much the same way an aeronautical engineer tests his design ideas in the laboratory or wind tunnel.

The method, called System Simulation, is an outgrowth of war gaming techniques used by the military, and the paper trial method often used by systems and procedures specialists. Computers and recently developed probability tools have made it possible to utilize system simulation for experimentation with complicated as well as simple operating policies and procedures.

Simulation is now being used to: study complex operating plans, or management controlling systems; train people in operation of complex tasks; gain acceptance of proposed changes through better understanding of how they will work or operate.

Simulation may be applied to small, day to day problems or to complex management and industrial engineering problems requiring operations research teams and computers. It often eliminates the need for costly trial and error methods of trying out a new operating concept on real people and machines.

A problem which came up recently in a company which carries inventory in a nationwide system of rented warehouses shows how the simulation works.

The Los Angeles manager of a company with home offices in the Middle West wanted an immediate change in the policy controlling his orders to replenish stock.

Under the system which required ordering a fixed quantity at a fixed point, the manager ordered a replacement equal to 75 days of current sales whenever his stock-on-hand reached a level equal to 30 days of average demand. The Los Angeles manager wanted the policy changed to give him more protection against stock-out. He suggested that the order quantity should be increased to a 90-day supply which he was positive would give him better protection.

The home office had three possible actions: It could arbitrarily say "no"—which it felt was the best answer; it could permit the proposed idea to be tried out and evaluated after some experience was gained; it could simulate what would happen if the suggested change had been in effect. It decided to try the simulation approach. Consequently, the Los Angeles manager was asked if he would be willing to use daily sales data for representative products for the past year as a means of comparing what would have happened had his idea been in effect. The manager was eager to prove his point in this way, so sales data, consid-

ered equivalent to demand data, were arrayed for a simulation of 1,000 days of operation.

A Simulation Work Sheet was set up and the 30-day order point, 75 day reorder amount policy was first simulated.

The Los Angeles manager then made a similar work sheet and simulated his proposed 90 day reorder quantity policy. Comparing the two indicated that the manager's plan would improve customer service four-tenths of one per cent through less stock-out. Against this improvement was the fact that carrying the additional inventory would require 10 per cent additional warehousing space and that about 14 per cent more money would be tied up in inventory.

As a result the manager was genuinely convinced that his suggestion would not have produced results as good as those achieved with the present policy. He also had an interesting time and felt that he had learned why the policy was the way it was. The type of participation which the manager experienced is one of the distinct advantages of utilizing the simulation technique.

This experience suggested a further thought to management: A systematic study of other possible policies might easily produce a better policy than the one it was using. This led to an operations research study which developed new inventory procedures which improved inventory investment and customer service. After the study, simulation techniques were again used to explain and demonstrate the results to operating management. Simulation proved a useful technique in imparting a more complete understanding of the study and in gaining acceptance of the changes involved.

The more dramatic aspects of system simulation lie in its ability to reproduce the workings of systems of a larger scale. A symposium on system simulation sponsored by the American Institute of Industrial Engineers showed these uses, among others:

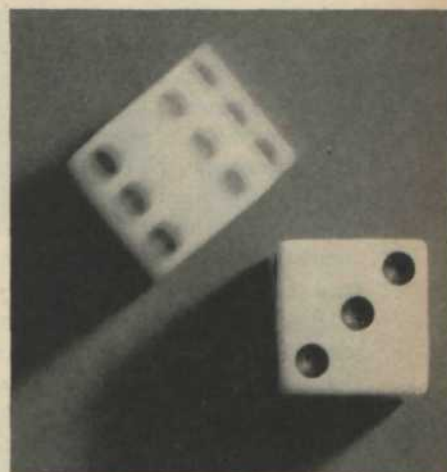
Profit planning simulation. A television tube manufacturing company wished to explore ways of obtaining better profit from its over-all operations. The flow of product was studied throughout the entire system. A flow chart of material from the point of purchase through operations in manufacturing to transportation in the distribution system was made. This chart served as the basis for programing a computer. Such factors as changes in volume imposed by the changes in customer demand, changes in product mix from a scheduling point of view, changes in the number and location of manufacturing plants, changes in the method and pattern of distribution and storage, and different expected losses of product in the manufacturing process could be made in the program put into the computer.

By studying those changes, it was possible to find out which factors were of the greatest sensitivity in producing profit and it was possible to experiment with possible changes in any of the factors indicated. Finally, the company feels that it has a realistic mechanism for planning and controlling its business system.

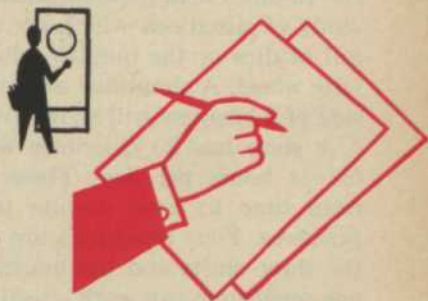
Customer servicing. A simulation of functions of ticketing and baggage check-in at an airport was made to determine the number and type of counters required, the number and tasks of airline personnel needed to render a given level of service to customers.

Data were collected concerning the frequency at which people arrived and the kind of services and time they required. Then by assuming different facilities it was possible through simulation to find out what methods would produce the best results.

Airline maintenance. Here the question was to determine what was the best balance between manpower, facilities for maintenance, the schedule pattern for arrival and take off, the number of reserve aircraft and the maintenance plan (or operational policies). Traditional staff



System simulation deals with situations as unpredictable as a single toss of dice



Simulation substitutes a paper plan instead of real people and machines

studies failed to bring out the effect that a program in one area of the company had upon another area. A study method that would study the total problem area was needed.

A flow model of airplanes landing and going through the various possibilities of possible maintenance and delay, etc., was constructed and programed for a large-scale computer. This could be operated so as to simulate two years of operation in but a few minutes of computer time. Now by changing various plans and policies it is possible to evaluate what set of conditions gives the best results in terms of manpower and equipment utilization and customer service.

Bus terminal operation. The Port of New York Authority has studied many problems involving optimum utilization of facilities, such as toll booths, in the attempt to provide good service at optimum cost.

One study was undertaken to find out which design, or layout of loading platforms, would permit the best service at the least cost at the mid-Manhattan bus terminal. Each passenger entering a bus was simulated on a computer study and the effect of many different layouts was determined by the simulation. The layout, then, could be planned with the reassurance that existing facilities were being used to best advantage.

Job shop scheduling. General Electric Company is using simulation to test new concepts and methods in production scheduling. Every production control man-

ager knows that the methods, priority rules, and so on that he uses in discharging his scheduling job have a big effect on his company's utilization of men and machines and also upon how smoothly the production flows and serves the customer.

General Electric is simulating factory operations to test these decision rules that in effect build up into the scheduling system. These policies and procedures concerning machine loading, scheduling, and dispatching are systematically tested in the laboratory and evaluated in terms of internal inventory cost, idle man and machine time, flexibility and cost of the scheduling itself. In this way the trial and error method of actually trying out a new approach will be avoided.

Central warehousing. Imperial Oil studied an extensive distribution system composed of many hundred field warehouses in connection with an extensive expansion problem. The flow of stock under various possible combinations of facility plans was studied by simulation and costed. Results of this work were instrumental in suggesting a central warehousing method of operation.

Inventory and distribution are particularly complex and interrelated problems. They are also some of the most important problems in management today. It is understandable, therefore, that we find considerable activity in the simulation of various distribution and inventory problems.

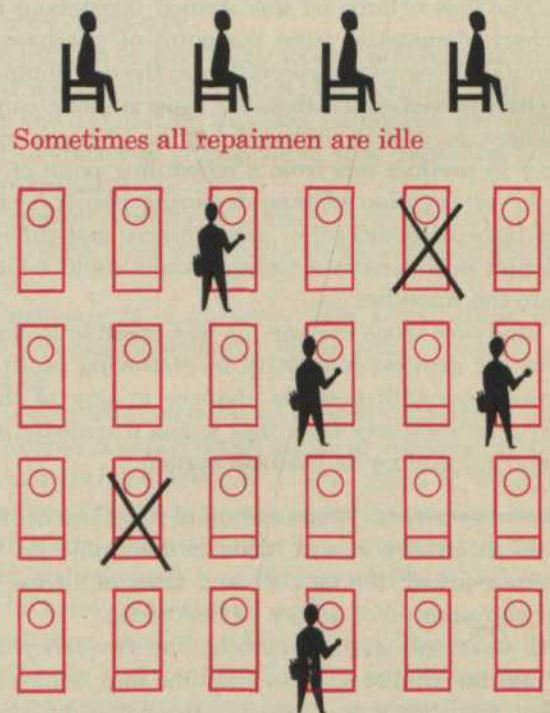
Making a simulation: *how many repairmen are enough?*

System simulation generally employs what is called the Monte Carlo method, so called because it permits study of situations which are as unpredictable as the fall of dice or the number which comes up on a roulette wheel. A simplified example from the production side of a business will show how a simulation is made.

A shop has 20 machines which run continuously for 24 hours per day. These machines break down from time to time despite preventive maintenance practices. Four repairmen are on duty during each of the three shifts and the machines are such that only one repairman can work effectively on them at a time. There also is a fixed production requirement for each week. This makes it necessary to work overtime on Saturday to make up for any down time during the week.

Sometimes more than four machines are down simultaneously while at other times all repairmen are idle. Even more frequently three and two men are idle. The question is: Are four repairmen the proper number?

An answer could be provided by experimenting with the real men and machines. An additional man could be put on, and it would be possible to measure how much better machine utilization would be achieved. Then this could be weighed against the cost of the extra repair help, and a measure of improvement reflected. After a while, the repair crew could be cut back to three men and the effects again be measured. However, this would be costly both in time and in money. System simulation is a way of performing this experi-



Seriousness of breakdowns

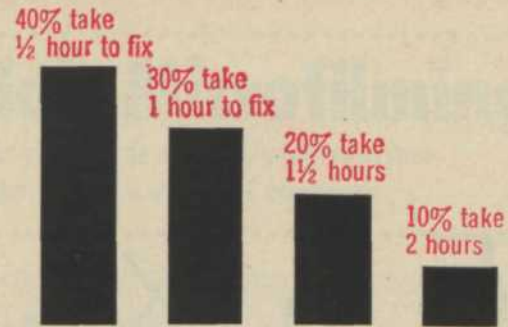
ment in the laboratory. A simulation experiment using three repairmen requires some data already available from records concerning the running time between breakdowns and the elapsed time in making the necessary repairs. First, the operations analyst advises there is one chance in 10 that a machine will break down in any given hour. Second, study of the necessary repairs discloses that 40 per cent of breakdowns require a half hour to repair; 30 per cent require an hour and so on. This data permits simulation of what would happen if various numbers of repairmen were used. Let's say the manager starts with three.

To estimate how many machines will break down in a given hour of operation of the simulated system he refers to a table of random numbers that have been recorded by scientists for just such types of analysis. These in effect may be thought of as the record of a million throws at a wheel. Since there are 20 machines, each with a chance for a breakdown, he looks at 20 numbers from this table, and arbitrarily says that number nine represents a breakdown. Note that there is only one chance in 10 of the number nine being read for each number looked at.

If three number nine's appear among the 20 numbers, he had three breakdowns in the first hour.

The next question is, "How long do repairs take?"

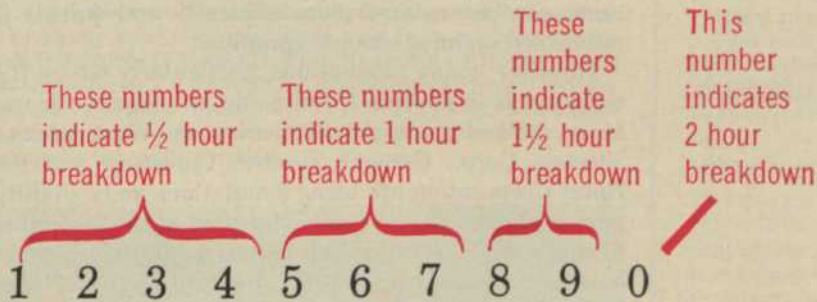
Using the random tables again, he chooses numbers to represent the varying lengths of repair time the different types of breakdown require. Since he already knows that repairs requiring a half-hour to fix occur, say, four times as often as repairs requiring two hours and twice as often as repairs requiring an hour and a half, he selects numbers in this same proportion.



Random table shows three 9's, representing breakdowns, in first hour

76540	87949	59115	26865
55295	51343	98859	77231
98000	21397	90842	30562
39628	54696	95594	14946
20694	53676	73107	27956
8416	94874	80302	51391
47554	78508	94303	87162
22052	57623	65457	91297
10082	01471	88847	22546
13625	56630	31877	06048

SOURCE: "A MILLION RANDOM DIGITS" BY THE RAND CORPORATION



These three repairs might be found to require 1, 1½, and ½ hours respectively.

He has now simulated one hour of operation of the man-machine system. He knows how many machines broke down in the first hour and how many man-hours of work will be required to repair them.

This same method is continued until many such hours are simulated.

As the simulation goes along troublesome situations will arise. In some time periods the manager will find that more work arrives than he can conveniently handle with his work force. He records the waiting time that is necessary due to this unlucky work load. This represents time which the machine was down and could not be worked on because the repairmen were all occupied on jobs that had arisen earlier.

At this point he has simulated the operations of this greatly simplified management system in the laboratory. This has been done without disrupting the organization by adding or removing one employee and without waiting until working habits settle down so that a real live study would produce meaningful

Table shows breakdowns took 1 hour, 1½ hours, ½ hour to fix

69705
116 85842 971
40627 50655 78121
54843 76085 86416
10751 86038 48807
15559 29084 00561
75403 48748 34074
94757 88940 58760
417 27537 812
22890

Paper simulation of many hours shows:



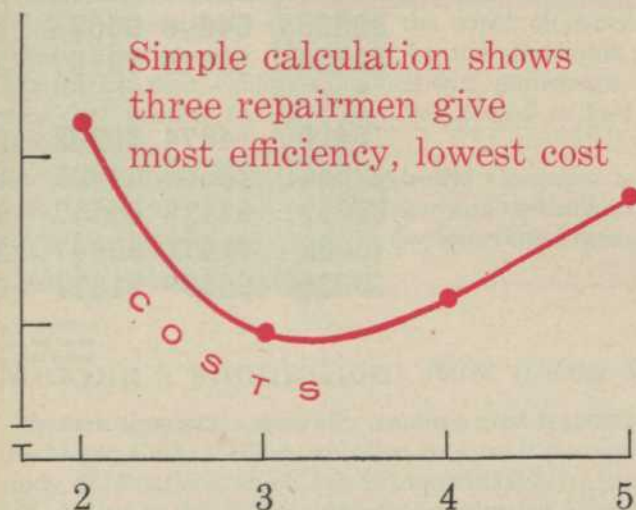
Total time spent making repairs



Total time repairmen were idle



Total waiting time of down machines



THE AUTHOR, Donald G. Malcolm, is director of operations research for Booz, Allen & Hamilton, management consultants of Chicago, Ill. In this capacity he has guided the development of system simulation activities in business and government. He is also one of the developers of the American Management Association's Top Management Decision Simulation, which was described in the July, 1957, issue of *NATION'S BUSINESS*

data. He next performs simulations for two, four and five repairmen. Examination of these data will indicate how much he will gain in machine utilization through employment of additional repairmen. At this point his simulation is completed and he is in a position to put costs on the data in such a way as to make a lowest cost solution.

Suppose that, considering the overtime and standby labor involved, the manager has ascertained that idle machine time costs \$5 an hour. The regular repairman rate is \$2.50 an hour. Now with data available the manager can compute the cost per machine hour of operating with different numbers of repairmen.

He can decide what number of repairmen will give him the most efficient operation and in this case his decision is indicated quite clearly—he should change to three repairmen instead of the four currently used. He can also estimate the annual savings which the most efficient number will give him.

At this point, the manager of the affected department may have some ideas concerning how he could get better results than indicated. He might, for example, suggest that giving priority to certain repairs could improve the machine utilization, or that purchase of more reliable machines would be a better course. System simulation can easily be extended to permit this manager to try out these ideas.

Generally speaking, most big problems worth exploring in great detail will be most efficiently and economically handled through use of an appropriate electronic computer. Even such a problem as the example above, when extended to include other conditions, can be explored more efficiently and quickly if performed on an electronic computer.

However, many simulations, particularly where the objective is to provide training, do not require the use of a computer. Such companies as Westinghouse Electric Corp., General Electric Company and the Rand Corporation are using simulations, only slightly more complex than the one illustrated at the beginning of this article, to train their inventory people in problems of operating and providing satisfactory stocks in their distribution system.

Success in using simulation will come only through experience in assembling adequate data and in understanding of the many mathematical and statistical problems that are involved in constructing a feasible and economical model.

Those considering full-scale models as aids in the decision making area should engage in smaller projects at the beginning. A training simulation is often a good project to undertake first. This will prevent certain disillusionment and make for a more meaningful research program.—DONALD G. MALCOLM

SOURCES for further information about the new planning tool, *System Simulation*, include:

The Society for the Advancement of Management, 74 Fifth Avenue, New York 11, N. Y.

International Headquarters of the Systems and Procedures Association of America, 4463 Penobscot Building, Detroit 26, Mich.

The American Institute of Industrial Engineers, 145 North High Street, Columbus, O.

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Profits face NEW LABOR ATTACK

Changed conditions cause a switch in demands from shorter workweek

AMERICAN BUSINESS FACES a new threat to the free enterprise economy and to management's duty to manage responsibly.

New labor demands call for a union voice in management which could lead to union control of prices, profits and production, and in effect also make unions the bargaining agent for stockholders, customers and salaried personnel as well as for union members.

This new attack on business and management operations follows the decision of top labor leadership to shift bargaining emphasis, for the present, from the long-heralded shorter workweek to higher take-home pay.

It is being led by Walter P. Reuther, head of the AFL-CIO Economic Policy Committee, who in postponing a showdown on the shorter workweek demonstrated his adeptness at gauging public opinion and his hope to throw industry off balance by shifting his attack.

Mr. Reuther no doubt sensed that he lacked public support for shorter hours in these times. He probably hopes that including something for the consumer in the 1958 wage demands will get more of the public on his side.

This new Reuther plan is another in a long list of ideas which the former Socialist Party member has advanced over the years in his climb

to the presidency of the giant United Automobile Workers and the old CIO. (See "Business Looks at Walter Reuther," NATION'S BUSINESS, October 1957.)

The plan, recently presented to the Big Three automobile manufacturers, calls for splitting three ways the earnings before taxes in excess of 10 per cent of net capital. The split, at the end of each year, would be: one fourth among all employees who do not share in executive bonuses; one fourth among consumers in a year-end rebate, and one half to the stockholders and executives.

This demand tops a package which includes a general wage increase and costly enlargement of benefits in addition to the proposed establishment of joint labor-management committees to study the shorter workweek and the impact of automation and technological advances.

While the profit-sharing idea would give the union a voice in profits, profit distribution, cost to consumers and compensation of executives, Mr. Reuther also wants, through the joint committees, to be consulted about such management responsibilities as levels of employment, plant relocation and decentralization, and production scheduling.

The package of UAW demands

has been denounced as revolutionary and inflationary by the heads of General Motors, Ford and Chrysler, whose three-year agreements with the union expire about June 1.

The progress and the outcome of wage negotiations, which don't actually begin in Detroit until April, will be watched by all business because of the tendency of new wage practices established in the automobile industry to spread to other industries.

Harlow H. Curtice, president of General Motors, branded the new Reuther plan as a radical scheme foreign to the concepts of our free system.

Ernest R. Breech, chairman of the board of Ford, condemned the UAW demands as unrealistic. He said Mr. Reuther is demanding the power not only to bargain for his union members but also to negotiate dividends for stockholders, compensation for management and prices for customers.

Mr. Reuther's views must, nevertheless, be carefully weighed, Mr. Breech warns, "because of the tremendous and unprecedented union monopoly power he wields."

L. L. Colbert, president of Chrysler, said Mr. Reuther seemed to be trying to increase still further his monopoly power by again insisting that part of management's job be turned over to him.

Mr. Reuther gives two reasons for shifting his tack from shorter hours to more pay: First, workers' purchasing power must be increased to reduce what he calls a gap between our production and consumption capacities; second, we must mobilize our economic and productive power to catch up with Russia.

"Greater leisure, for the time being, can wait," he says.

Mr. Reuther's change of strategy seems to confirm the conclusion of economists that, in today's economic climate, the issue of shorter hours means a choice between:

- ▶ Lowering our standard of living by working less and producing fewer goods and services at higher cost.
- ▶ Or continuing to improve our living standards by producing more and having more at lower cost.

We cannot have both more goods and more leisure, they say, unless the loss in work time is more than compensated for by an increase in the output per man-hour of work. In any event, any reduction in hours would reduce the amount of goods which would otherwise have been available if there were no reduction.

No one will argue against the human desire to work fewer hours. But who, today, wants to work less

if it means he will also have fewer of the things he needs or wants?

The tense international situation and public urgency to catch up with Russian technology, the decrease in business activity, the inflation problem, the desire of workers to earn more and have more, and the prospect of a labor shortage in the 1960's contributed to labor's doubts about shortening hours at this time.

Not long ago, AFL-CIO President George Meany told union economists that labor was determined to win shorter hours with no cut in pay, and that they must be won through collective bargaining—the most important weapon—rather than through legislation.

Last month, at the AFL-CIO convention, Mr. Meany revealed his own doubts about reducing working hours. He pointed to Russia's development of nuclear weapons and long-range ballistic missiles as an ominous threat to our security. He urged convention delegates to help alert the country to the need for building up our military strength.

Mr. Reuther, with an eye for proper timing, has shifted back and forth on the shorter workweek question.

In early 1953, with international tensions still high at the end of the Korean war, Reuther forces at the UAW convention successfully defeated a resolution to seek a 30-hour week. They accused communists of inspiring the proposal in an effort to impair our national defense and lower our standard of living. They pointed out that, with less work, less was produced; that the compelling need was for more goods to satisfy wants rather than more leisure.

In 1955, having won supplemental unemployment benefits as an alternative to a guaranteed annual wage, Mr. Reuther proclaimed labor's next bargaining objective to be a shorter workweek with no loss in take-home pay. Later he talked about a four-day week, with even more pay than for five days, and the biggest wage increase in the union's history.

More recently, however, he began talking about our being jarred out of smug complacency by Russia's launching of a space satellite; he is critical of a slackening in the rate of economic expansion since 1953 as holding down our standard of living; he pleads for more schools, highways, housing, hospitals; he says workers must get more pay to increase purchasing power.

You could see the shift in emphasis coming when Mr. Reuther began saying that labor would get shorter hours "as our technology makes shorter hours possible."

"We in the labor movement be-

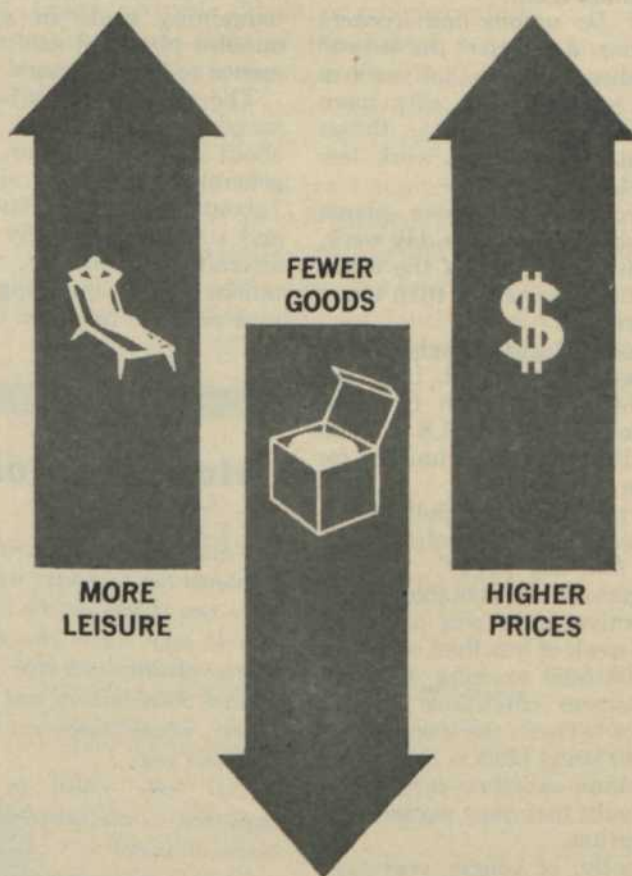
New Push

Divide earnings before taxes
in excess of 10% of net capital



Delayed

Drive for shorter workweek
which economists say
would bring...



Answers to three questions point to reasons for switch on shorter hours

lieve that the length of the work-week is not a matter in which we can dictate or which management should be permitted to dictate," he said. "The level of our technology is the only thing that can dictate the level of our work hours."

Then, some weeks ago, the UAW president said he had no basic disagreement with a statement by Secretary of Labor James P. Mitchell that shorter working hours must come in an evolutionary way and that any shortening which reduces our productive capacity and standard of living is not desirable.

While watching these developments, management is asking three important questions:

- ▶ Do unions and workers really want a shorter workweek?
- ▶ What will it cost?
- ▶ What are the economic implications?

From new evidence and trend indications we can get a fairly good idea of what the answers may be. Let's examine them:

FIRST: *Do unions and workers really want a shorter workweek?*

The indications are that workers prefer to work more to earn more money to buy more of the things they want—rather than work less and have less.

In Akron, where rubber plants are on a six-hour day, six-day week, more than 25 per cent of the workers hold two jobs rather than enjoy more leisure.

A Census Bureau study shows that between 1950 and 1957 the number of workers with two jobs nearly doubled—from 1.8 million to 3.5 million—as opportunities for extra jobs increased.

In two public opinion polls, workers expressed rather strong opposition to a four-day week.

Management suspects that labor's real objective is to win a shorter standard week of less than 40 hours, but to continue working 40 hours when business conditions permit, with hours between the lower standard and 40 being paid at time and a half premium overtime rate. There is little doubt that most workers like more overtime.

Eventually, of course, cost pressures would force companies to eliminate premium overtime pay and adopt the shorter workweek even in

peak periods. This would have the effect of slowing the economy's growth.

"Aside from the workers' desire for their paid holidays and paid vacations there is no evidence in recent experience that workers want shorter daily or weekly hours," George Brooks, research director of the International Brotherhood of Paper Workers, told an AFL-CIO conference on shorter hours. In fact, he said, most workers complain about not getting enough overtime work.

The International Association of Machinists dropped demands for a 35-hour week made on some aircraft companies two years ago because, union sources said, the availability of overtime on a 40-hour week lessened pressure for the shorter workweek. The workers were looking for overtime pay.

More recently, IAM leaders announced the 30-hour week with no loss in pay as a major bargaining objective. Yet, just a few weeks ago, when the IAM announced its 1958 bargaining goals in aircraft and missiles plants, it omitted any reference to shorter hours.

The package of various IAM demands adds up to an increase of about 26 cents an hour, including a general increase of six per cent (about 13 cents). Since the IAM and UAW work closely together in aircraft and missiles, where both unions have bargaining rights, the IAM package has been construed as

an indication of what the UAW will probably be shooting for in the automobile negotiations.

Actually, labor contracts or laws do not limit the number of hours worked (except in such matters as women and children and hazardous work). They usually specify the maximum number of hours which can be worked before overtime premium must be paid, with management having the right to schedule whatever number of hours it wants.

There is no magic in a 40-hour week, although the national average is about that because it is the standard week—before overtime must be paid—under the federal wage-hour law. In many plants in many industries, employees work on scheduled weeks of less than or more than 40 hours. In some industries, such as automobiles, where production fluctuates, the scheduled number of hours is more than 40 hours in busy times and less in slack periods.

Leverage for a 35-hour week could come through congressional action to reduce the 40-hour provision in the federal wage-hour law, although when Congress put the 40-hour rule into effect in 1940 it already had become fairly widespread in industry.

Labor is supporting bills introduced in the Senate and House a year ago which would reduce the 40-hour provision of the wage-hour law to 37½ hours in two years and to 35 hours two years after that.

SECOND: *What will a shorter workweek cost?*

Even John L. Lewis, who has fought hard for shorter hours for his coal miners, recognizes the cost factor. He told his last United Mine Workers convention:

"The question of the six-hour day is one of cost. . . . When you reduce the day from eight to six hours it

How decision affects shorter hours fight

Walter Reuther's decision to put off demands for a shorter workweek may have two effects on the issue:

1. It may throw the showdown on shorter hours into the laps of the United Steelworkers and the steel industry, whose three-year contracts expire next year.

2. It may result in a different approach to the question of reducing hours of work.

There is no agreement among work-

ers or unions on how they want to take greater leisure if they achieve it, whether in a shorter day, fewer days a week, longer vacations, more holidays, etc. (See "Unions Ponder Work Time Cuts," *Nation's Business*, January, 1957.)

Whereas Mr. Reuther has been talking about a four-day week, planning inside the United Steelworkers has been in terms of an extra three-month vacation every five years.

means a 25 per cent increase, at least, in costs.

"We have to consider the facts of life. If you want to stop eating so much and loaf more, we can get you the six-hour day."

The following table shows what the increase in hourly cost will be for an employer who is paying, say, \$2 an hour, and who agrees to shorten the workweek below 40 hours while maintaining current weekly earnings, under two different situations: 1, where the employe actually works only the shorter scheduled hours; 2, where this same employe puts in overtime at time and a half to complete a 40-hour week.

Workweek reduced to	Increase (1)	Increase (2)
37.5 hours	13 cents	20 cents
36	22	33
35	28	43
32	50	75
30	66	99

THIRD: What are the economic implications of the shorter work-week demand?

This boils down to having more or having less; improving our standard of living by producing more goods through higher productivity, or lowering it by drawing on the productivity increase to get more leisure rather than more goods.

Lower output with higher pay will increase costs, force prices up, increase consumer demand for fewer goods—all inflationary pressures.

Frank Highton, General Electric Company economist, shows in this formula the three basic elements which together determine the level of output:

Output=Hours x Employment x Productivity

Change any one of these four components and you change one or more of the other three.

"For a given level of output," Mr. Highton points out, "you have a given level of hours, employment and productivity. To increase output, or the amount of goods you want, you have to increase hours, or employment or productivity, or a combination of them.

"And, if the workweek is shortened, output will decrease, except as you have offsetting increases in employment or productivity."

Hours of work have been reduced in various ways (shorter days, fewer days a week, more paid holidays, more vacation time) over the years as the rise in productivity (about two to three per cent a year on the long-run average) enabled the economy to grow and provide us with more goods and services.

But, economists have found, the



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NEW LABOR ATTACK

continued

gains in productivity have, in the past, been divided about 60-40 between higher real wages (being able to buy more with an hour's pay) and more leisure (fewer hours of work).

Despite the current rise in unemployment, which is still relatively low at about 3.3 million, manpower experts are forecasting a tight labor market until 1965, when the big crop of war babies enters the labor market.

Secretary Mitchell says that, even with a 40-hour week, 10 million new workers will have to enter the labor force between 1955 and 1965—1 million a year—to fulfill the needs of our booming population. Reducing the number of working hours will increase the demand for manpower even more or lower our capacity to fulfill those needs.

An economist took 1956 figures on wages, hours, employment, gross national product, and profits and figured out what the impact would be if the country went on a four-day week tomorrow. That is, if working hours were suddenly re-

duced 20 per cent. On manpower, there would be a need for 15.5 million more workers, but only 5.8 million would be available from the 2.6 million unemployed and 3.2 million who had jobs but were on vacation, sick, or not at work for other reasons when interviewed by the Census Bureau.

Of course, counting on them would hardly be practical, because some idleness always exists while people are changing jobs, often voluntarily.

Almost 10 million more workers would have to be drawn into the labor force from among women, older persons and others who today are not seeking work.

The cost in higher wages, if workers are given the same pay for four days as they have been getting for five days, would be about \$47 billion a year; if they have to work the fifth day at time and a half to maintain the gross national product, it would cost almost \$90 billion more in overtime pay, making the total extra cost about \$137 billion.

The significance of these cost figures becomes more apparent when one considers that total corporate profits in 1956 were \$43.4 billion before taxes, \$21.5 billion after taxes.

END

RUSSIAN SCIENCE *continued from page 31*

Americans do not respect scholarship, science; poor teaching is a result

interests. I doubt if they have highest quality workers or facilities.

But in one thing Russia is far above America. Science matters to them. Education ranks high. In 1936, along with many others over the years, I pointed out the relative numbers of scientists and engineers being trained in Russia and in the U. S. It was already clear that the best students at each schooling level were encouraged and subsidized to go on.

Not only were they given resources—they also had incentive. In terms of personal welfare, a scientist was about as well off as anyone, not only materially but psychologically. He had the prestige and admiration we reserve for athletes and entertainers.

We have good scientists in all fields in the U. S. and they are well supplied with resources. It was perhaps true until recently that we were mostly applying basic science dis-

coveries made by Europeans; but now many of Europe's best scientists have come here and we have a good crop of our own. Still the picture is not all bright.

Many Americans don't really respect science or scholarship. To be called "professor" is almost an insult, and certainly "egghead" is intended to be one.

What would you recommend?

Obviously support must be built up in this area, in the social and psychological sciences. Certainly support (sheer financial support) has been seriously behind what it was even in the biological area and there it is just a fraction of that in the physical sciences. On the other hand, it is also true that much of the money in physical science is for development, so that the imbalance in pure research is not so great.

A few years ago the American Physiological Society started a

study, supported by the National Science Foundation, on the status of physiological science in this country. The results will soon appear in a book, "Mirror to Physiology." It includes much information about research for biological versus physical science and some distressing findings about science education in this country.

What is the major conclusion?

Some major conclusions of the study are what everybody is now saying. The study of biology has been rising in the high schools and colleges, not because youngsters want biology, but because they're afraid to take physics, mathematics and chemistry. Biology is watered down until it's a sort of personal hygiene. Even in rural high schools there may be little effort to observe living things, let alone to understand how they work.

How widespread is this kind of ineffectual teaching?

Very widespread.

In the public school system?

Yes. In the high schools teaching is commonly by teachers who have had no science, to students who have not been fired by it, for periods too short for any laboratory work, and without facilities even for good demonstrations. It's pretty bad.

Would you say this would be true not only of biology but other subjects?

Science in general. I want to add one thing. We hear a great deal about students dropping out because of insufficient resources. Fifty per cent of the students who are intellectually qualified to go to college did not get there.

Why is this?

Mostly it is assumed to be for lack of money, but I think lack of motivation may be even more important. Even able youngsters who could get scholarships or raise funds in some other way, say, "Why should I go to college—just to become a longhair?" Bad!

How do we overcome that?

You've got to change basic attitudes by Operation Bootstrap. A few really good people will attract other good people and eventually the imagination of the people is fired.

Do you have any ideas on something imaginative that this country might do to regain face with the world?

I don't think we've lost face with

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RUSSIAN SCIENCE *continued*

I We are now beginning to learn how an organism builds proteins, other molecules

the world simply because Russia got a Sputnik up first, although Russia has certainly demolished our claim to be in a different scientific league. Our whole attitude toward the rest of the world has often been shortsighted. But how to capture the imagination of the world? Let me give you an example:

Before the Iron Curtain fell, 14 of us went on a mission to Czechoslovakia. Paul Dudley White was the chairman. It cost a few tens of thousands of dollars. The Unitarian Service Committee raised some and UNRRA supplied the rest. We stayed three months. The Russians had been there, the Chinese had been there, the English had been there, others had been there, and here were some more Americans. The Czechs' attitude was "What do you want from us?" We said "We don't want anything, we came to help." They said, in effect, "Oh yeah?" For about two weeks there was a standoffishness.

But we were telling the truth, we didn't want a thing from them. We came to bring knowledge and instruments from which they had been cut off. We brought books and drugs and good will and we left them there. We talked with colleagues and soon were on a first name basis. They found that we did know what we were talking about. By the end of the summer, we were the most important thing in Czechoslovakia. The only time in my life I've been a real VIP. Some of us went walking in the countryside 50 miles from Prague on a Sunday afternoon and villagers we met called us by name; they had seen our pictures in the papers so often! The prestige of America was indeed high.

This was before Czechoslovakia went under the Iron Curtain?

A year or so. I sometimes think our visit was one of the reasons the communists felt they had to move.

We have spent something like \$60 billion in various forms of aid, and yet we don't really seem to have many real reliable friends or much influence. How do you explain this?

A little money in hands and through channels that are genuinely trying to do something will have a great effect. A large amount of

money went out under our own petty strictures or was used by bureaucrats or actual grafters in the recipient countries.

Do you feel that we need a more ambitious program of exchanging scientists, perhaps even with the Russians themselves?

They know everything that we do. Our science is by and large open; they get our journals, they translate them into Russian; in Czechoslovakia I learned that a couple of my books had been translated into Russian. Little of the Russian work is translated into English.

Do you think we need it?

Of course we need it. As long as they can build on what we do, plus what they do, and we build on what we do, who's going to be ahead?

What are the future prospects in the behavioral sciences? The kind of things that, if we did a little bit more, we might achieve?

Let me answer first for biology. For decades we have studied body and food substances and how they are broken down. Now we are tackling the problems of synthesis. We're beginning to learn how the organism builds proteins and other important molecules. Soon we will know how to make them. We are learning how chlorophyll makes food; getting control of diseases in animals and plants as well as humans. Maybe test-tube babies won't be too far off. Organ transplants are almost practicable.

Is there any possibility of brain transplants?

That I don't see for a long time, because nerve fibers must be cut and we haven't yet learned how to make those regenerate on the central nervous system. But important steps are being made here, too, and when regeneration in the brain is possible—who knows?

All sorts of specific drugs will be developed. The psychoactive ones are just beginning. The tranquilizers were first, but there will be lots of others, influencing performance and temperament. When the right neural units are altered, particular behavior changes will occur. We have a large research project trying to separate schizophrenia into its com-

ponent diseases; to find what really goes wrong, and if this is always the same thing; when the units of behavior are identified and can be measured—as factors of intelligence—it will become possible in a sense to get an ability fingerprint of a person. Individuals could then be guided into appropriate activities.

This always sounds ominous—regimentation, with everybody in his niche. But actually if people can be helped into the thing for which they are really fit, they will be happier and more effective and there need be no coercion. More generally, there is certainly going to be a breakthrough in the control of human behavior, in various ways—whether it will be used wisely or unwisely is another question.

Does the edge that Russia has now scare you, or do you feel that somehow we can close the gap?

I do not think we should be pessimistic. We have been blindly complacent and must be grateful to Russia for bringing us back to reality, and not only because of a war threat. I am not unafraid of Russia, because a gun is always dangerous and can get into irresponsible hands. But I also fear fatty degeneration of our own moral fiber and suggest a slogan for us—"double chins up." Perhaps this is America's time for blood, sweat and tears.

How do you reconcile our great progress in the sciences of biology and psychology with the national uneasiness which we seem to have?

Let me answer this not in professional terms. We've got so much in material resources that we don't really have enough to do in life. We don't have goals that really matter. Being comfortable and making money are nice, but they are hardly sufficient.

America needs to lift its level of aspiration and to get on with the job. We must toughen our education and see to it that our best youngsters are motivated and supported to carry on to the highest levels. They are needed in all phases of civilized existence; in business as well as the professions; in the humanities and fine arts as well as the sciences; and in biology and medicine, in psychology and social science, as well as in physical science and engineering.

Finally, one can hope for a time when all efforts in all aspects of human achievement in all countries will be treasured for their total contribution to the good of mankind, rather than in terms of national conflict.

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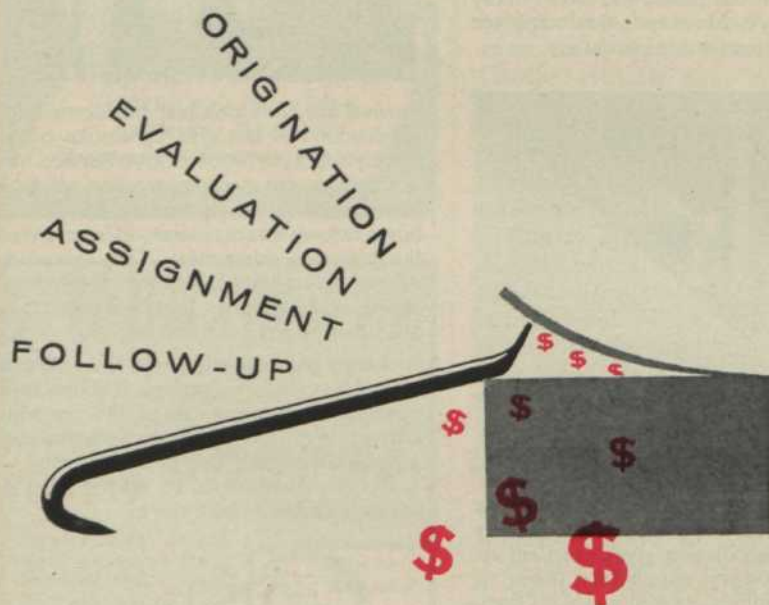
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This program is something more than the standard suggestion system. Sylvania has that, too. But the suggestion system is primarily for hourly wage workers. The Profit Improvement Program is designed

for supervisory level employees, from the shop foremen right up to top management.

Under the suggestion system, the hourly wage employees are given monetary rewards for their successful ideas, provided the ideas fall outside the scope of their normal jobs.

Under the Profit Improvement Program, all ideas are acceptable as long as they contribute to profits, whether inside or outside the scope of the supervisor's normal job. Under an established company policy, no monetary rewards are given for PIP ideas. Sylvania reasons that by the time a person has reached a supervisory position, he presumably is interested in the profits of the

company. Besides, says Don G. Mitchell, Sylvania board chairman and company president, a certain percentage of a manager's salary is paid for "just thinking." He is expected to come up with ideas, think of ways to improve profits.

The Profit Improvement Program provides him with a definite, organized way to bring the ideas into actuality. It is here, too, that it differs from most suggestion systems. That is, the program is highly organized and actively pushed—from top management down—throughout its four basic phases. These are:

1. Origination of the profit improvement idea.
2. Evaluation of the idea and profit improvement.
3. Assignment of the idea for carry-out.
4. Follow up and report.

Success of the program depends almost entirely on the backing it gets from top management at the corporate, division, and plant levels. Management pushes it actively through letters, news sheets and personal trips to the field. An amazing thing about the program, they say, is that one idea for making more money always seems to turn up another, so there is never a vacuum of profit-making ideas.

Not only does the corporate-level management give the program a push, but the same happens all down the line. Sylvania is decentralized to a high degree and each division is judged on its profits. Therefore, if a division manager or a plant manager has a profit improvement project that is lagging, he has a good reason to give it a nudge to get it moving.

Management doesn't just wait for profit improvement ideas to come up the line, either. Each November top managers in a plant or division get together and decide on a goal for profit improvement.

This goal may be based on how well the division did the year before. For instance, one of the largest divisions of Sylvania realized that, because of rising labor costs, rising costs of materials and other factors, it had to increase its profit on sales about \$10 million on PIP projects just to remain where it was the year before.

In all promotion of the plan, the company stresses that this is a positive program to make more profits—not a negative effort to cut costs. Mr. Mitchell stresses the difference between cost-cutting and profit-improvement:

"Theoretically, the purpose of an economy drive is to promote greater efficiency but that purpose quickly gets lost in the confusion because

everything in striking distance gets economized. It misses the entire point because it beclouds the main issue with a thousand trivial ones. It ignores the basic fact that you make money by spending money intelligently."

At Sylvania the positive approach works like this:

Origination of the idea. A plant foreman may have an idea which will increase the productivity of one of his machines. Although he knows the modification will be expensive, he believes it will more than pay for itself. Under the formal program he will feel free to make his suggestion if it satisfies five conditions:

1. Has a specific goal.
2. Involves some specific action.
3. Progress can be scheduled.
4. Results can be measured and attributed to the action taken.
5. Produces a tangible improvement in profit over current operations for the company as a whole.

Having satisfied himself that the proposed change qualifies under these five guides, which are designed to take projects out of the realm of intangibles, the foreman jots the idea down on a scrap of paper. In fact, as a part of the regular promotion of the program, foremen are supplied with small memo-calendar books with special blank pages for PIP ideas.

An important point here is that the foreman feels free to suggest. He isn't afraid that the boss will regard constant suggestions for ways to improve as meaning that he is dissatisfied; instead he knows that suggestions are expected from him.

Equally important, he knows exactly who is the profit improvement coordinator in his plant or department. There is at least one coordinator in each plant and sometimes large plants have several men acting as coordinators' contacts. The coordinator's job is usually in addition to other duties.

Right at this point under less organized programs, the idea might die. But the Sylvania program provides a definite course of action for an employee with an idea.

Evaluation of the idea. The profit improvement coordinator receives the idea, makes a formal entry of it, showing the originator's name, and with a profit improvement committee, studies the idea to see whether it is practical.

Usually the coordinator is an engineer and, since most of the ideas are in the field of mechanization, is in a good position to make an initial evaluation. Also, after a preliminary estimate, he has to have cost

(continued on page 82)

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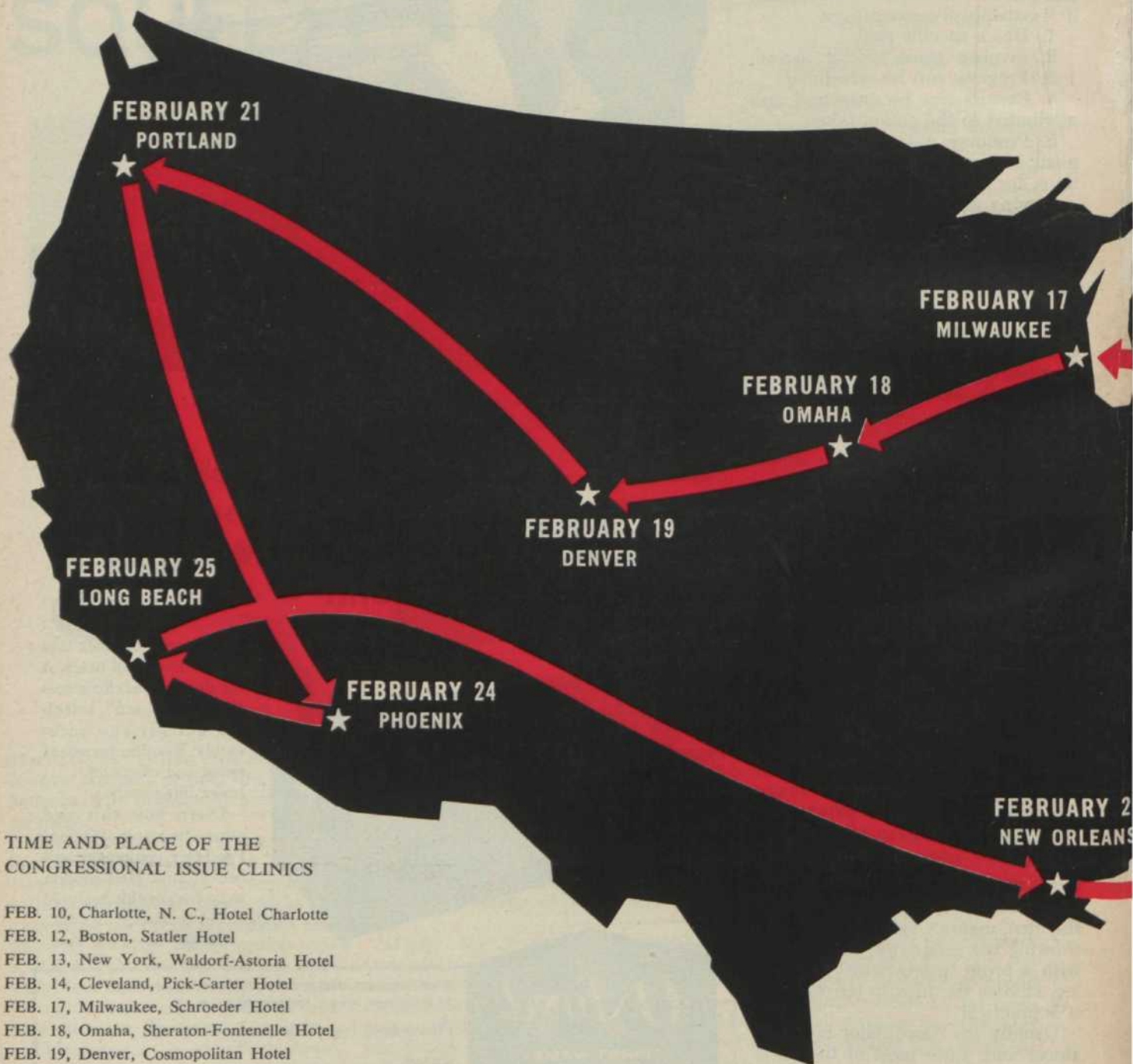
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- FEB. 14, Cleveland, Pick-Carter Hotel
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- FEB. 18, Omaha, Sheraton-Fontenelle Hotel
- FEB. 19, Denver, Cosmopolitan Hotel
- FEB. 21, Portland, Multnomah Hotel
- FEB. 24, Phoenix, Westward-Ho
- FEB. 25, Long Beach, Lafayette Hotel
- FEB. 27, New Orleans, Roosevelt Hotel
- FEB. 28, Jacksonville, George Washington Hotel

A year ago, businessmen from more than 800 communities took part in the National Chamber's 1957 Aircade for Legislative Action. They voted it "one of the most interesting, informative and useful business events of the year."

By request, by demand, the National Chamber is putting on a 1958 Aircade. It will cover new territory. The entire program will be new.

In February, a flying team of legislative experts will visit the 12 cities shown on the map. In each city, the National Chamber will conduct an all-day Congressional Issue Clinic, in cooperation with the local Chamber of Commerce.

You are cordially invited to attend one of these Clinics and to participate in the program. This is what you will get out of it:

1. The Congressional Issue Clinic will bring you a close-up picture of what Congress is doing and planning—it will give you information you need, and can get in no other way;
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3. It will show you ways in which you, as a businessman, can make your views on legislative proposals felt more effectively in Washington.



the 1958 aircade for legislative action

Look over the map, pick out the Congressional Issue Clinic most convenient for you to attend, and plan to be there. For detailed information, write to the Chamber of Commerce in the city where the Clinic of your choice will be held.

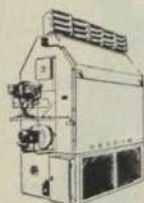
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EMPLOYEES' IDEAS *continued*

One proposal saves \$2,000, and provides better quality product

accountants or other financial people estimate the cost of the modification and the savings that would probably result. The amount of savings, less the cost of the modification, is considered the profit improvement. This is just a yardstick, of course, but each project is given a profit improvement figure. Periodically, then, top management can estimate the amount of profit improvement resulting from the program.

The program does not subtract from its dollar totals the adverse effects of labor, material and overhead increases; only the plus factors are recorded.

Using such figures as a yardstick, Mr. Mitchell recently said, "From a company-wide standpoint, our Profit Improvement Program, operating on a day-after-day basis, throughout the organization will reach \$60 million on an annual basis by the end of this (1957) year. That is the highest level we have ever attained. I certainly will concede that many of these projects would have happened whether we had a profit improvement program or not, but all of us are convinced that this profit improvement philosophy has conservatively more than doubled the improvement we normally would have been able to expect."

Assignment for carrying-out. Once the coordinator and committee are convinced the idea deserves a trial, it is assigned to the person or department best suited to carry it out. The coordinator and committee have such authority.

The coordinator might assign the foreman's idea for modification of a machine to the machine shop since the shop would be best equipped to complete it. The shop would then become responsible for seeing that the modification was completed, or proved unwise.

Follow-up and report. Periodically, the machine shop would report to the coordinator on the progress of the modification. The progress report is added to a standard form, which gives the names of the department responsible for all projects in the plant, their descriptions and numbers, the originators of the ideas, percentage completed, estimated annual profit improvement and estimated completion dates.

If the project is abandoned for

any reason, that is reported, too. Circulation of the master-list of projects underway in the company gives all the foremen and managers a chance to see what is being done in other plants as well as their own, and what other people are thinking of in terms of profit improvement. This tends to build up a feeling of friendly competition among divisions, plants and departments, Mr. Mitchell says. More important, it gives everyone a chance to see if some project is being developed which will be of use to him.

Summaries of these plant-wide progress sheets are passed on up through the 11 divisions which in turn pass them up to the corporate level and to the profit-improvement coordinator at company headquarters. Mr. Mitchell and other members of top management get reports on the outstanding ones.

A notation of a successful profit improvement idea is made in the



originator's personnel file so, even though he receives no monetary reward, his idea definitely serves as a plus factor when he is considered for promotion. Some divisions award a letter of merit to the originator of a profit-making idea.

All the ideas become the property of Sylvania. Technical employees, when they first come to work for the company, sign a statement that all patentable discoveries they make while working for the company belong to Sylvania.

Mr. Mitchell was the leader in forming the Profit Improvement Program shortly after World War II, when Sylvania, like other companies, faced staggering cutbacks in wartime orders. He formed a committee to see how the company could expand rather than shrink from its wartime size. From the committee the present program evolved in 1948.

As an example of some of the profit improvement projects, Mr. Mitchell recalls that in one plant a push to make better use of materials

received more than 550 suggestions from 800 employees in three months, more suggestions than the plant had received in the previous two and a half years. Many of these suggestions were duplications and not usable. But enough of them were applicable to bring about substantial savings over a three-month period. Interestingly, showing that the program is broader than cost-cutting, an additional five employees were taken on to run this program at a time when a normal reaction might be to let people go. Concentrated PIP effort saved \$50,000 in material over the period.

At another plant, individual plastic bags and cylindrical cardboard boxes were used to ship the tiny grid wires used in receiving tubes. Mr. Mitchell says, "The boys found that they could use anti-tarnish paper, save \$2,000, but even more important, provide the customer with a better quality product at no increase in costs."

He adds, "In one of our lamp plants a group of new machines cost about \$500,000, but this project was approved on the basis that it will pay for itself in less than three years through greater efficiencies and increased production. There is a clear-cut case of not being able to afford not to do something."

Profit improvement projects that amount to more than \$50,000, or for some reason warrant top management recognition, are placed in the Executive Profit Improvement Program, which is designed to enlist the support and attention of division and corporate management for their follow-up.

Mr. Mitchell makes a strong point of having a profit improvement program when he notes that, in the future, the nation's work force will not be large enough to produce the goods and services we will want. "Greater productivity will have to come from finding better ways of doing things throughout the organization. That means new ideas, and more new ideas, and translation of those ideas into action.

"Everyone of us will have to push his ingenuity a little harder and dig a little deeper for better ways of doing things. An isolated cost reduction here and there will not be the answer. A coordinated, company-wide, positive approach looking ahead one year, five years, 10 years is the only solution." **END**

REPRINTS of "Employees' Ideas Ease Profit Squeeze" may be obtained for 10 cents a copy or \$6.75 per 100 postpaid from Nation's Business, 1615 H St. N.W., Washington 6, D. C. Please enclose remittance.



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You can ask creative questions

Curiosity, properly guided, is spark that sets off new ideas

THE DESIRE AND WILL to learn is essential for a business executive or for anyone who would be a leader. A strong sense of curiosity, coupled with a well developed capacity for questioning, is vital to creative thought of any kind.

Like any other art, learning to ask useful and worth-while questions is best accomplished by acquiring at least some understanding of the aims and methods of questioning and a large amount of practice in the techniques.

Much of this needed learning could, for an adult, be better classified as re-learning. It involves methods that you probably used instinctively as a child. According to Dr. John Arnold of Stanford University, the average four-to-six-year-old asks 400 questions a day. This, says Dr. Arnold, is "the time of your life when you learned at the highest rate possible."

This questioning attitude is lost largely through the indifference and unwillingness of parents, school teachers and classmates to put up with "silly kid questions." An adult, through constant exposure to the school of success that says, "Never show what you don't know," is usually afraid to ask questions. Some of this fear is undoubtedly the fear of sounding foolish in asking a question. Some of it may come from lack of practice. The successful questioner needs to know:

- ▶ When to question.
- ▶ The techniques of questioning.
- ▶ Kinds of questions to ask.
- ▶ How to put questions to work.
- ▶ When to stop.

Actually it is only through questions that a person can learn. Only by questioning other people's thoughts and asking questions of your own mind can you hope to uncover new theories, new ideas and new combinations of thoughts that will lead to new and better ways of doing things.

It is good policy to question yourself first. Your own experience and knowledge, if properly acquired, are probably as good as other people's.

You start questioning others when you run out of answers yourself.

There is an important difference between the questions of idle curiosity and what the late Albert Einstein called the "driving spirit of inquiry" of the true creative person. The questions asked by such a creative person are not usually asked—nor can they be answered—lightly. So in trying to build your own questioning ability, keep in mind that it is somewhat like taking setting-up exercises. If you take them half-heartedly, just now and then, little good will result. However, everyone realizes that such exercises taken for a purpose can do wonders. In the same way, purposeful use of questions can work wonders for your imagination and your general thinking abilities.

When to question

Generally speaking, there are four times in any problem-solving sequence when it is important to ask questions:

When you are trying to define or uncover a problem. In business, as in medicine, symptoms can often obscure the real disease.

When you are collecting information relevant to the problem. When faced with a problem you ultimately have to work with the information you have. But you should have as much as you can get. Questioning is a means of getting it.

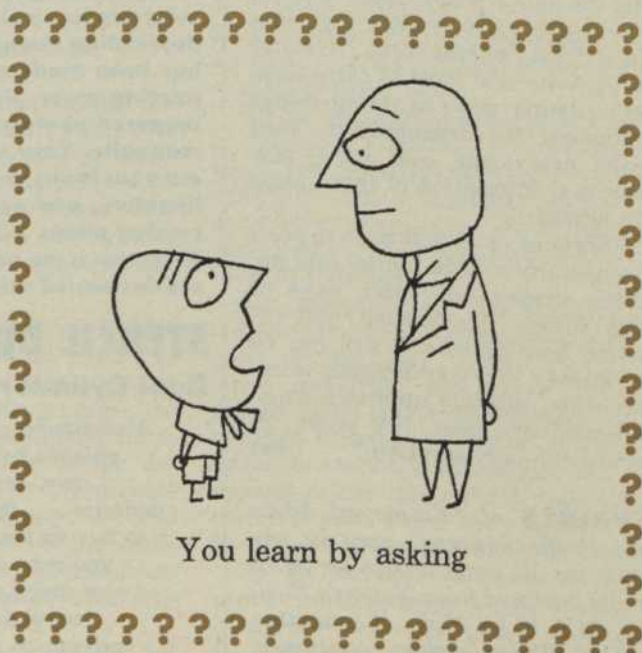
When you are gathering ideas that may offer possible solutions to your problem.

When you are evaluating your ideas or alternate courses of action to select a possible solution to try.

Questioning should be almost a continual process throughout a problem-solving effort. The questioning and the answers obtained provide the bricks and mortar with which you build your solution to the problem. Not enough questions can start you off on a skimpy foundation.

Techniques of questioning

An executive who is trying to develop an efficient questioning technique, could do much worse than study the pros—writers, newspaper reporters, scien-



tists, research people. These people make their livings out of asking questions that uncover usable information and, at the same time, indicate what the next question should be.

In his book, "Applied Imagination," Alex Osborn describes a U. S. Army question technique, applied during World War II to "the operations of all arsenals, motor-maintenance shops, and many other war-production installations."

The queries officers were trained to ask themselves were actually based on the old news reporting standby, "Who, what, why, when, where, how?" The Army questions: "1. *Why* is it necessary? 2. *Where* should it be done? 3. *When* should it be done? 4. *Who* should do it? 5. *What* should be done? 6. *How* should it be done?"

Before going into some of the operational specifics of questioning, let's set up the framework within which we will do our questioning.

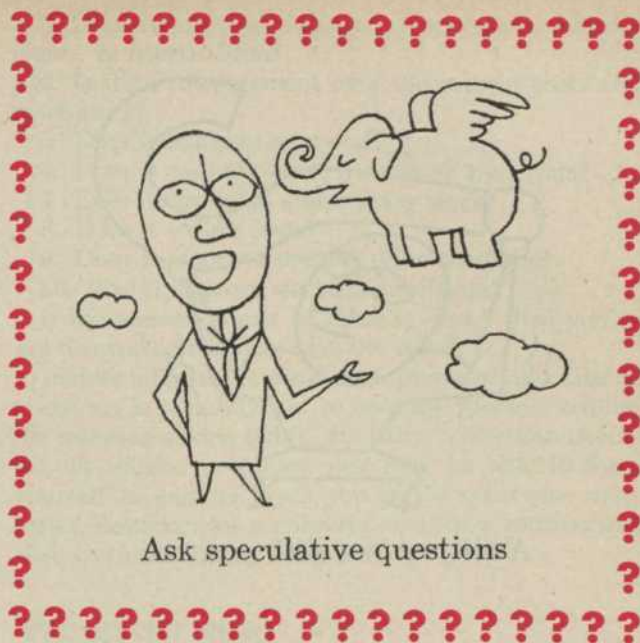
The creative questioner must develop a type of dual personality: he must not only participate in the creative act; he must also be able to reserve at least a part of his mind to being a spectator. He must be able mentally to step out of the problem from time to time and watch the big picture. Efficient questioning calls for an occasional look at the road ahead that the involved self will soon be traveling. Only in this way can you avoid bumps, ruts, blind alleys, and other traps that can dissipate both your questioning time and your energy. During the time you are actually involved, your mind will probably be too busy smoothing out bumps and filling in ruts to pay much attention to the road ahead.

This holds true of any creative endeavor: The process requires both involvement and detachment, but neither should suffer because of the other. Instead, you should try to keep continually shifting back and forth. You must mentally involve yourself in a problem, then mentally step back and see what you have accomplished, much as an artist puts paint on the canvas, then backs off to see the effect on the total impression of the painting.

Another way of stating this theory of efficient questioning would be to suggest that you ask questions first to establish the big picture of your problem: its boundaries, limitations, history, and general characteristics. Once this is established, you can step back and look for the area that seems to offer most immediate possibilities for attack.

Gradually, and with your big picture constantly in the back of your mind, you reduce it into a series of smaller detail pictures about which you ask detailed and specific questions. It is probably a good idea not to try to zero in on details too soon. If you do, you may miss something important in the over-all picture. Furthermore, if you begin asking questions to pin down details before policy is clear, you may end up wasting a great deal of time. A shift from an assumed policy could make all your detail decisions obsolete or even wrong.

The serious questioner also gets an assist from a not generally known mental function. The Gestalt school of psychology refers to this function as the principle of closure—the efforts of the mind to close, or complete, an incompleting figure or pattern. A simple manifestation of this principle in operation can be



observed by watching the average doodler. If he should, for example, doodle out a series of parallel lines, then cross them with even one line at right angles, chances are he will then go on to complete the pattern by cross-hatching the entire design. If he should start a spiral drawing, almost inevitably he will complete the entire spiral before letting his pencil proceed to other patterns. If interrupted, he will, at the first opportunity, go back to complete the pattern that has been set up in his mind.

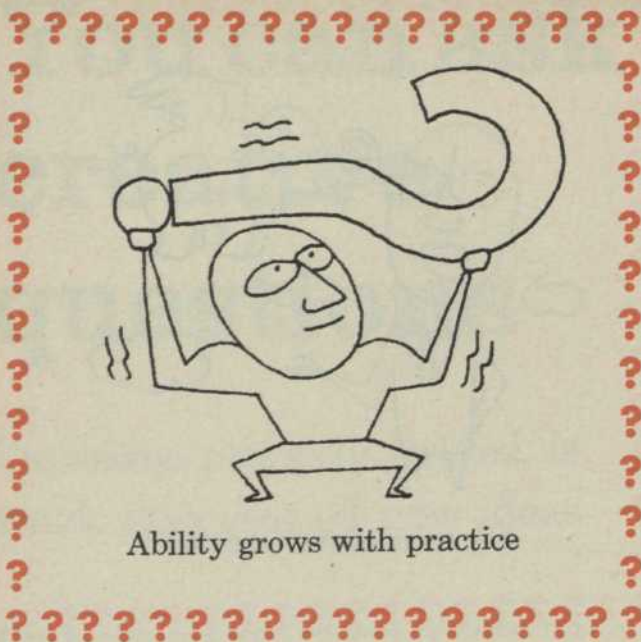
All this, of course, usually involves subconscious thinking, but it does demonstrate the operation of the mechanism.

In using this function of closure, it is important only to remember that it is there and that it is operative. When you begin to ask questions about anything, your mind becomes sensitized to the missing elements that will complete the pattern. As long as you can avoid developing a fixation about one particular missing element (to the exclusion of others that may also be missing), your mind can work with you in indicating the direction your questioning should take.

Kinds of questions to ask

No mere listing of questions will, of course, cover all the problems and interests of any particular business executive. However, there are general types of questions that can suggest, at least broadly, what may be productive avenues of inquiry that you can follow in pursuing your problems.

Ask about what is around you. These questions will largely concern the which, the what, and the how of things. Such questions help you uncover problems—or opportunities. As examples: Questioning your present methods may lead to elimination of unnecessary operations or simplifications of your procedures. Asking about working conditions can lead to improved safety measures or elimination of some accident hazards. Such a simple question as, "How can we reduce waste on this particular manufacturing operation?" can



Ability grows with practice

often lead to more profitable production throughout the plant.

Maintain a healthy skepticism. Ask questions about the why of things to keep yourself (and others) from getting into ruts. This category of questions can, of course, make you highly unpopular with certain types of people because it forces them to think. Frequently, a "why?" challenge to an accepted procedure can uncover the fact that the only reason for doing something a certain way is that "We've always done it this way." If that "always" covers a period of more than six months, a whole salvo of questions may then be in order to establish whether or not this is still the best way to handle that particular problem. It may be that it is—but if you question it, then you know.

Ask when and where. In business, timing can often be crucial to the success or failure of a venture. Marketing, sales, and advertising efforts are especially vulnerable to mistakes in timing . . . and just as susceptible to help through good timing. Timing, of course, includes termination of an effort as well as initiation. Asking "where?" is logical for a new plant location, and just as logical about new markets; new sources of raw materials; even the location of a new water fountain in the shop ("Where are the largest number of workers located? . . . Where does the traffic flow? . . . Where are the present water pipes? . . . Where are the drain pipes? Considering these, just where is the best place for the water fountain?").

Learn about personalities. The acceptance or rejection of any new idea, or new method of doing things, depends largely upon the people involved. So is the degree of success in carrying out an order. So ask about the "who" of things—"Who will have to approve this?—What are his likes, dislikes, strengths, weaknesses?" "What are the qualities we need in a man to handle this operation?—Who comes closest to having those qualities now?—Who could be trained?" Probably every executive believes in Harriman Hill's advice, "Never do anything yourself you can get someone else to do for you," but if you hold the re-

sponsibility for success or failure on a venture, you should be concerned with questioning the "who" of things.

Ask speculative questions. Don't be afraid to indulge in fantasy with your questions. Speculation is what gives you bold new approaches to problems or established methods. William O. Uraneck, of the Ford Motor Company, suggests use of what he terms trigger questions in his courses on creative thinking. These are speculative questions that he throws in after students have been working on a problem—just about the time they feel they have all the answers. Typical questions that can trigger entirely new and fresh approaches include: "What if the size of the organization were changed?" "What if the organization consisted entirely of women?" "What if the incentives were changed to nonmonetary forms?" "What ideas would you suggest if the workers were children—or if the workers were all from foreign countries?" Frequently the answers to such questions can be applied to the actual problem either as is, or with slight modification, and will, in fact, be better than the answers previously worked out through more conventional questioning.

Putting questions to work

Different types of problems call for different types of questions. Here are four checklists of questions that more or less cover the four principal times you should pay special attention to your questioning:

Questions that define or uncover problems: In his course in Creative Design, which he conducted for several years at MIT, Prof. John Arnold advocated the use of questions like these to uncover new possibilities for product improvement:

"Can we increase the function? Can we make the product do more things?

"Can we get a higher performance level? Make the product longer lived? More reliable? More accurate? Safer? More convenient to use? Easier to repair and maintain?

"Can we lower the cost? Eliminate excess parts? Substitute cheaper materials? Design to reduce hand labor or for complete automation?

"Can we increase the salability? Improve the appearance of the product? Improve the package? Improve its point of sale?"

If the answer to such questions is "yes," or "possibly," you may have a real opportunity to apply some creative thinking.

Questions that get facts: One of the country's most successful new product companies uses a 56-question checklist to make sure it has the facts before committing itself too deeply on a new idea. These are typical:

"Can we sell it? Is there a market now?—if not, can one be developed? Is it compatible with present products? Selling price all right for expected market? Consumer education needed?

"Can we make it? Sources of required materials? Do we have personnel in the company to manufacture it now? Need for technical staff to develop?—to manufacture? Do we have machines to make it?

"What investment is required?—to develop?—to market? Cost to prove product (capital needed be-

fore first sale)? Distribution costs? How soon will it pay its own way?

"What will the product be like? Size? Weight? Handling properties? Perishable? How will we transport finished product? Can related products be developed?"

"How will we sell it? Present sales force?—new sales organization? What kind of sales promotion necessary? Manner of merchandising?"

If the answer to any of these questions is unfavorable, the standard follow-up question is then, "Can we change this situation?"

Questions that lead to ideas: In his textbook, "Applied Imagination," Alex Osborn lists more than 70 types of self-interrogation questions which, he claims, can lead the way to ideas. Here is a cross-section:

Put to other uses? New ways to use as is? Other uses if modified?

Adapt? What else is like this? What other ideas does this suggest? What could I copy? Whom could I emulate?

Modify? New twist? Change meaning, color, motion, sound, odor, form, shape? Other changes possible?

Magnify? What to add? More time? Greater frequency? Stronger? Higher? Longer? Thicker? Multiply? Exaggerate?

Minify? What to subtract? Smaller? Condense? Lower? Shorter? Lighter? Omit? Streamline? Split up?

Substitute? Who else instead? What else instead? Other ingredients? Other process? Other power?

Rearrange? Interchange components? Other patterns? Other layout? Transpose cause and effect? Change pace? Change schedule?

Reverse? Transpose positive and negative? Turn it backward? Upside down? Reverse roles?

Combine? How about a blend, an alloy, an assortment, an ensemble? Combine units? Purposes?

Questions that lead to decisions: Some departments of the U. S. Navy use a 10-point checklist in evaluating new ideas. These points apply equally well to many nonmilitary business decisions:

1. Will it increase production—improve quality?
2. Is it a more efficient utilization of manpower?

3. Does it improve methods of operation, maintenance, or construction?

4. Is it an improvement over the present tools and machinery?

5. Does it improve safety?

6. Does it prevent waste—conserve materials?

7. Does it eliminate unnecessary work?

8. Does it reduce costs?

9. Does it improve present office methods?

10. Will it improve working conditions?

If the answer to any of these is "yes," then you've got a constructive idea, says the Navy.

Incidentally, using some such prepared checklist of questions is a handy aid to helping yourself acquire the question-asking habit. By using a question-checklist on routine problems, you may be able to force yourself to explore areas you might otherwise miss. Don't, however, let a checklist become a routine tool that you use without imagination.

When to stop

Just asking questions is not going to accomplish anything for you or your company no matter how sound and meaningful the answers. Eventually, you reach a point where you have to stop asking and start doing. Common sense is the best guide in deciding when this point has been reached. However, consider these suggestions:

Before you start your questioning, know what it is you want to find out. This will help you recognize it when you get it.

Stop probing when the answers begin to repeat—when you are no longer learning anything new or usable as a result of your questioning.

A modification of this suggests that you stop when the return in information and ideas is no longer worth the investment in time and effort.

Always conclude with one final question: "Have I overlooked any sources of new answers?"

It is important for any business executive to remember that a questioning spirit can be of value throughout an entire business organization. No executive should make the mistake of believing that he, or his contemporaries on the same level, are the only persons capable of creative or progressive thinking.

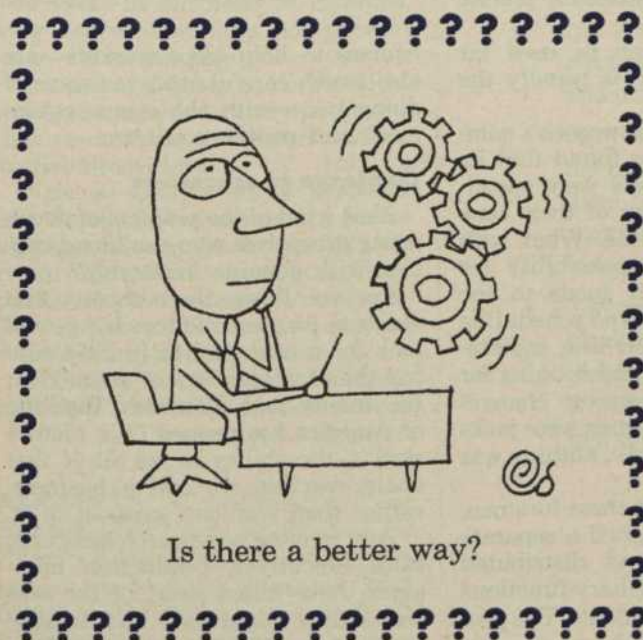
There are many documented cases of ordinary production workers suggesting highly successful ideas. The executive who rebuffs questions, or who discourages questions by subordinates, runs a risk of shutting himself off from either a new idea or what would ultimately be a profitable line of investigation.

Therefore, the executive's own questioning ability should serve to set the example for the organization. When your workers find out that the boss really is interested in new ideas, new challenges, new and better ways of doing things, you may begin to enjoy totally unexpected benefits.

But, as Heraclitus said, "You will never find the unexpected unless you are looking for it."

—JOSEPH G. MASON

REPRINTS of "You Can Ask Creative Questions" may be obtained for 15 cents a copy or \$10.15 per 100 postpaid from Nation's Business, 1615 H St. N. W., Washington 6, D. C. Please enclose remittance.





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MINIMIZE YOUR RISK *continued from page 45*

Personnel can be used much more efficiently than is usually the case

much more mileage can we get out of the assets we have right now?"

Examples of ideas that can evolve from cultivating this attitude are all around us. One company saved the expense of erecting a new office building by setting up a mezzanine around three sides of its old headquarters.

Another—a food processor—had planned to lease extra office space because it needed more accountants to provide management with immediate cost figures. Instead, a suggestion to make double use of existing space led it to hire a night crew of cost clerks, avoiding the need for added quarters. These workers come up with the previous day's cost figures by 11 o'clock each morning, thus giving management a service that no daytime staff could match.

Similarly, every piece of equipment, from a belt sander to an office duplicating machine, may have idle time when it could be contributing to profit. And existing product lines can sometimes be adapted to an infinite variety of new customer needs, as one precision casting company recently found.

This industry has long accepted the verdict that its finely cast parts were too costly for much use outside of military work. But a visitor from Belgium now reveals that his casting company—having insufficient government business to rely on—has developed hundreds of profitable commercial applications by studying the needs of many industries for precise component parts.

Personnel, too, can be used far more efficiently than is usually the case.

A leading maker of women's compacts and accessories found that its production supervisors were spending only a small part of their time on getting goods made. What with hiring new help, responsibility for transporting finished goods to the warehouse, planning and scheduling of products from their line, maintenance of equipment, and training for new procedures whenever changeovers occurred, these men were jacks of all trades. Obviously, nothing was done very well.

Over the protest of these foremen, the company established a separate scheduling group and distributed most of the other auxiliary functions to appropriate departments. The production men were told to concen-

trate on fast, efficient, economical manufacturing.

Result: This group of supervisors goes home less tired, enjoys better health, and has cut cost of goods sold by 11 per cent.

Even more elementary as a way of making each employee count for more is the elimination of the "late start—early quit" habit.

"By just stressing the fact that work begins right at starting time and that the wash-up period before quitting time is five minutes, rather than 15 or 20, we have added measurably to the efficiency of this office," one office manager says.

Doing more with what you have doesn't always preclude the adding of new assets. In some cases, the two go hand in hand.

A prominent maker of trucks has cut invoicing time 95 per cent by installing an automatic typewriter to fill in repeated data. Other aids—such as plant music to combat nerve-wearing noises, and better-reading



courses to help office workers—are also worth careful study as ways of doing more with the space, equipment and people you have.

Challenge to executives

Now what of the problem of developing executives who can blend caution with genuine leadership?

For one thing, the company that wants to be prepared for change will look for a new quality in determining the promotability of executives: the talent that Research Institute of America has termed "big picture skill"—the ability to see all of that chain reaction we call a business, rather than just one segment of it.

Any number of research directors, sales executives, production managers, have fallen short of the successes they might have had because they were unable to understand how

their operations related to the investors who were looking for a return on capital. Important as it still is for a shoemaker to stick to his last, the sharp division of executive labor that prevailed in the earlier part of this century is inadequate today. A man must see his own responsibility as skillful completion of a specific task in the way that will contribute most to a general accomplishment.

But this characteristic must be combined with another that is seldom considered: courage—a die-hard determination to avoid easy alternatives and to preserve an integrity of managerial approach.

How will this kind of executive help provide an answer to the modern dilemma? How will he react to the requirement for business decisions that are at once dynamic and conservative?

Faced with an important problem, a businessman can attack it in one of three ways:

- ▶ With bold strokes based on quick hunches and personal opinions. This rugged individualism is no longer allowable as a general practice.
- ▶ By looking around, sounding out the opinions of others, advancing a tentative, contingent suggestion that serves an immediate personal end.
- ▶ By analyzing thoroughly, forming a considered opinion, proposing it boldly regardless of its popularity, using the views of others only as checkpoints, rather than as crutches.

This last method is the positive answer to the challenge of a sterner business situation.

It doesn't ignore the need for greater carefulness than business once required; but it invokes the far-seeing thoughtfulness of the chess player, rather than caution for its own sake. In business, as in chess, long deliberation does not prevent an inventive strategy.

Instead of relying on conformists, the business with a future is the one that rewards its intelligent and reflective innovators.

New as today's set of problems may be, the fact of change is a perennial one. Every era brings its own group of special circumstances. Companies which recognize the new conditions before it is too late are the ones that adjust and survive.

The time to recognize the mid-century's new business odds is here.

—CHARLES A. CERAMI

REPRINTS of "Minimize Your Business Risk" may be obtained for 10 cents a copy or \$6.75 per 100 post-paid from Nation's Business, 1615 H St. N. W., Washington 6, D. C. Please enclose remittance with order.



WOMEN MEMBERS?

Yes!

Women? Of course our local Chamber of Commerce wants them to join. In fact, the enthusiastic support of businesswomen in the area makes the Chamber an even more basic part of the fabric of the community. Many progressive Chambers have a Women's Committee which draws up and sticks to a busy and valuable program. The ladies often work with teen-agers—organize style shows before school opens, check on traffic safety measures so that children run the least possible risk on their way to school, organize after-school activities to keep the youngsters interested and occupied.

In other Chambers, women members work right along with the men on the regular program. They seem to learn about local government in a shorter time than the menfolk, and their suggestions for civic improvement carry a lot of weight in committee decisions.

Yes sir, we appreciate our women members and want more of them. The feminine touch, no matter how light and dainty, is essential to making the town a better place in which to live and raise our children. We want them to join us and to give us the kind of help only they can give.

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Executive Trends

Management problems that bear watching

National, regional and local meetings planned for the coming months provide a measure of current executive interest. Checks disclose lively, growing interest in a number of areas: increasing the efficiency of salesmen in a period of heightened competition and buyer resistance, new product planning, cost reduction methods, finance and finance controls, changing profits and break-even points, and implications of new union demands.

►On balance, the interest gauge shows that many companies are focusing on immediate problems related to the leveling of business, putting less emphasis on peripheral or long-range problems. Despite this shift, the memberships and registrations of training organizations are rising, not dropping.

Higher ups more interested in lower downs

That's how one management expert describes the accelerating concern of top management in the function and efficiency of the first-line supervisor. The point made by many training and development people is that too much of industry's effort has been directed to the top level or middle manager. Now this effort is being channeled into training of supervisors—because of the supervisor's critical role as a bridge between management and the rank-and-file workers, and his vast influence on such factors as worker morale, plant efficiency and internal communication.

►Personal selling power is another skill which many firms are striving to build. It's important because many salesmen—and top managers, too—have never worked through a period of economic pressure such as the one we are experiencing now. Toughening-up clinics for salesmen are being conducted—on the theory that the market is still there—it's just harder to sell.

Management know-how defeats isms

Amid pressures for more extensive U. S. spending for aid to foreign nations, it's important to keep in focus the kind of assistance which pays the biggest dividends. In many cases it's know-how, not dollars. Evidence: A training consultant for a large French auto manufacturing concern studied management practices in this country, then returned to France to set up miniature programs patterned after the kind he had seen here. He says that at the start of his program 80 per cent of the company workers and 70 per cent of the supervisors were Communist Party members. By the end of the year not one supervisor was a Communist Party member and far fewer workers were enrolled in the party.

►The thing that made the difference, the Frenchman says, is that he saw for the first time in America—and was able to incorporate in his company's

training program—mutual understanding of management-labor problems. His experience has been duplicated by others, including a Belgian executive who credits U. S. industry's concern for the individual worker as a strong deterrent of socialism here.

Your stake in the European Common Market

More and more company planners are including the European Common Market in their assessment of market growth possibilities. A national meeting on the implications of the Common Market for U. S. industry will be held in New York this month, with four European experts scheduled to speak. The questions American businessmen are asking include: What will the new market be like? How will it affect our exports? What kind of investment should we make in it now? Most analysts see the opportunities raised by the Market as far offsetting any dislocations in our overseas trade which it might bring.

►The Common Market concept will spur European interest in our production, distribution and management techniques. The reason: the Market idea is designed to broaden European industry, step up inter-nation trade, and sharply accelerate soft and hard goods consumption along the American mass market lines.

Technics—a new approach to better management

The Rapids-Standard Company, Inc., of Grand Rapids, Mich., reports significant progress under "technics"—a new concept of effective management which it has evolved. The program aims at finding a common meeting ground on which all segments of a company can unify their efforts and thus work toward a common goal. In the case of Rapids-Standard, that meeting ground is materials handling, an activity which it finds has far-reaching impact on all phases of company operation. At first glance, it would seem that finance and materials handling have little connection. Yet, by applying modern materials handling principles, Rapids-Standard was able to gain 40,000 square feet of floor space for manufacturing within its existing plant, eliminating the need for planned expansion of plant, which would have cost \$300,000. This, obviously, aided the firm's financial position.

►Stated another way, technics is the exploration of the interrelationships between various company activities, the breaking down of narrow departmental interests and the building up of department-to-department understanding. The scheme has applications, with variations, for other companies—particularly small and medium-size concerns.

Sorting out the bulls and bears

Assistant Prof. Warren E. Miller of the University of Michigan Survey Research Center has developed some interesting new data on the political views of economic bulls and bears. The bull—or optimist—tends, he says, to frown on welfare spending by government at home, but favors such activity internationally to help underdeveloped countries. The bear, on the other hand, supports welfare activity and an enlarged role for government in domestic affairs—but does not favor such activity outside of this country. Professor Miller's conclusions are based on detailed analysis of data obtained in the 1956 national elections.

►What kind of bull or bear are you? Professor Miller maintains that individuals with strong egos tend to view business conditions with confidence and may, therefore, be prone to support the incumbent political party. Those with weaker egos would probably call for a change, be more pessimistic.

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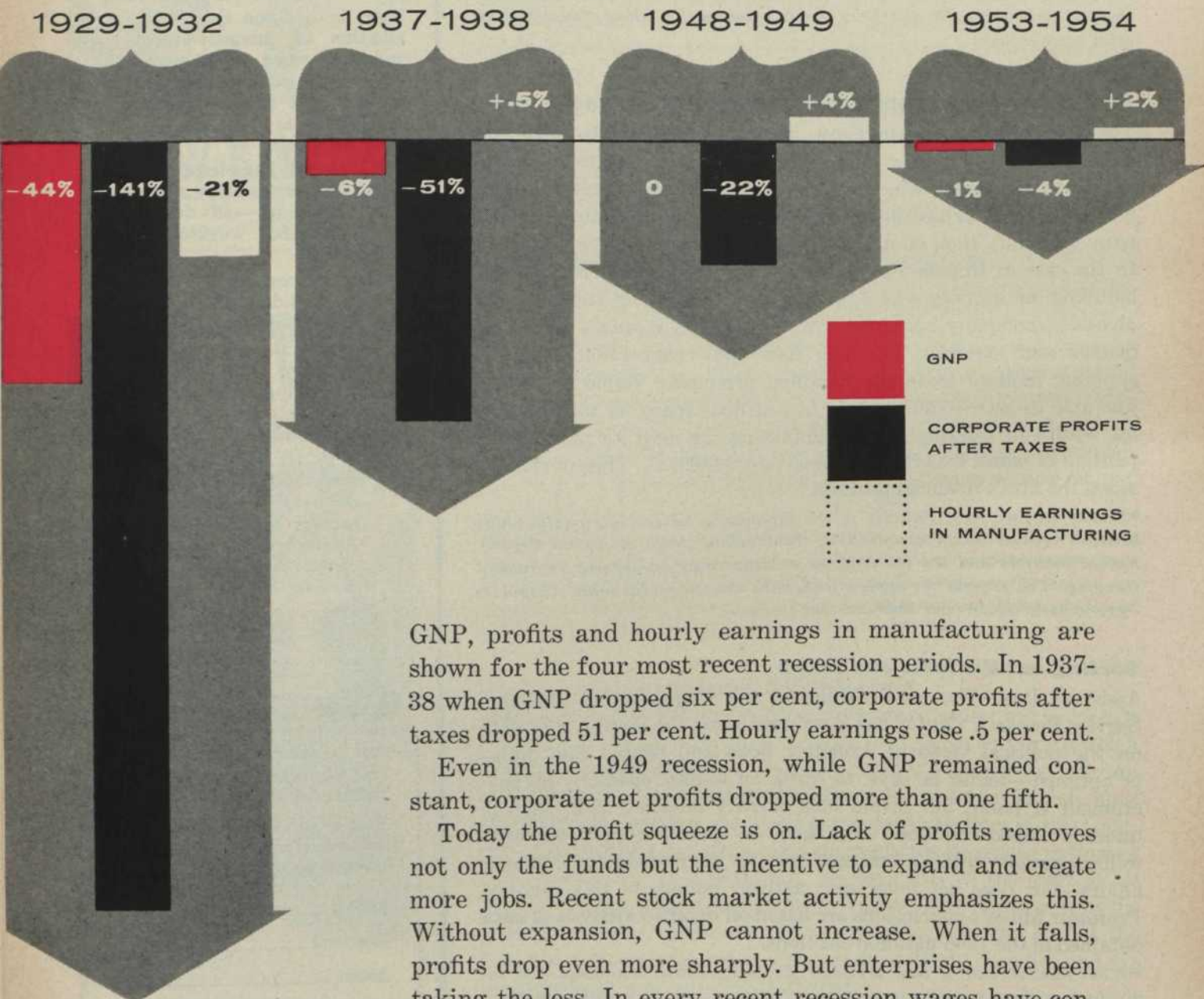
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BRAKE

on expansion

Here is what happens to profits and costs when Gross National Product stops growing



GNP, profits and hourly earnings in manufacturing are shown for the four most recent recession periods. In 1937-38 when GNP dropped six per cent, corporate profits after taxes dropped 51 per cent. Hourly earnings rose .5 per cent.

Even in the 1949 recession, while GNP remained constant, corporate net profits dropped more than one fifth.

Today the profit squeeze is on. Lack of profits removes not only the funds but the incentive to expand and create more jobs. Recent stock market activity emphasizes this. Without expansion, GNP cannot increase. When it falls, profits drop even more sharply. But enterprises have been taking the loss. In every recent recession wages have continued to rise even though productivity did not keep pace.

New plants bought from undistributed profits are paid for by dollars of stockholders, not of consumers

would shift to substitute products and its own sales and profits would decline. The funds such a price was allegedly designed to obtain would not be forthcoming. Moreover, they would not be required because the policy itself would result in idle capacity.

A company is as much concerned as unions should be that it does not price its product out of the market.

At times in the postwar period prices of some products (steel, autos, aluminum and others) apparently have been too low in terms of how much users were willing to pay. Otherwise, how explain the gray markets for these products, conversion deals for steel and other evidences that, at the prevailing price level, there was not enough of the item produced to satisfy the enormous demand?

In fact retained earnings are supplied by the customer only in the sense that all funds a corporation receives from its sales must come from its customers. The consumer makes his decision to buy or not in terms of the price asked. But what proportion of the price is used to pay for wages, materials, replacement of plant, profit or any other use is not the customers' problem.

Stockholders' dollars, not consumer dollars, are used to buy new plant and equipment out of undistributed profits. But this capital is not riskless to the stockholder. Stockholders who have not received all of the earnings in the form of dividends have foregone part of the income they might have received on their investment. The fact that a stockholder foregoes part of his return is a real cost to him. He does not have the immediate use of cash and the opportunity to invest it profitably. Because he foregoes this return, he expects an additional return on that amount in the future.

It is anticipated that this return will be earned when the corporation invests the withheld earnings in new productive plant and equipment. If the plant and equipment acquired

is used profitably, the stockholder is rewarded; if not, he suffers a loss.

When earnings are paid as dividends and stock is then sold to a corporation's stockholders, the process apparently is not criticized. But, if the same funds required for expansion are retained in the business, then it is claimed that something is wrong with the process. Actually, both procedures yield substantially the same result. In this connection, Prof. William A. Paton of the University of Michigan points out that: "There is no material difference in the situation when the funds are invested directly by corporate management without being passed through the hands of the stockholders."

However, it must be recognized that, when dividends are paid and new stock is sold, the stockholder does have greater choice in deciding whether to use the income obtained to reinvest in the business or in some other way. Many firms provide for periodic stock dividends to give the stockholder tangible evidence of such reinvested earnings. If the stockholder wants to sell these stock dividends, he is free to do so and thus, at such times, he has a choice as to how to use those funds.

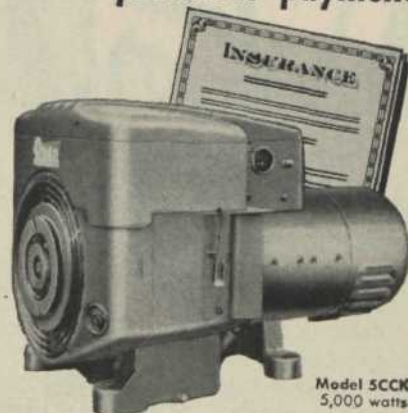
As the need for funds to finance expansion increased in 1956 and in 1957, many companies paid stock dividends instead of cash dividends in order to retain the cash to finance their plant and equipment programs.

When a company does not have to go to the capital market to raise funds, it saves flotation costs. In this sense undistributed profits make available costless capital, but this is not what the critics have in mind.

In effect, the critics of costless capital are concerned about some proportion of corporate earnings which is considered to be excessive and which, if it exists at all, is unidentifiable, and which represents a real cost to the stockholder who foregoes its receipt currently.

—JULES BACKMAN,
Professor of Economics,
New York University

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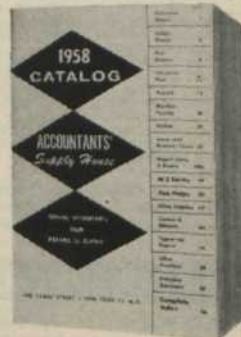


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**In 1957, we purchased material and supplies from nearly 33,000 other companies — 90% of them “small business” with less than 500 employees: total value, \$1¼ billion.*



UNIT OF THE BELL SYSTEM

DEFENSE NEEDS MORE ----- THAN DOLLARS

WARS ARE NOT WON by throwing dollars at the enemy. Practical experience suggests that throwing them at friends creates no Damon and Pythias relationships, either.

Our federal program as outlined for fiscal 1959 suggests that government does not share these views. The implication is that, if the government collects \$74.4 billion and spends \$73.9 billion, the universal peace which we are all awaiting so hopefully will somehow be brought closer.

If this is a dependable result, nobody will begrudge a penny, either of the collecting or the spending.

But, so far as is now discernible, only the spending seems certain. The result is open to question.

That part of the budget which is allotted to major national security shows why.

For major national security, the budget estimate is \$45.8 billion. Of this, \$39.8 billion goes to the Department of Defense—\$13.8 billion for procurement, \$10.5 billion for personnel, \$9.3 billion for operation and maintenance, \$6.2 billion for construction.

In his State of the Union message, the President joined with other qualified critics in observing that harmful armed service rivalries might be causing wasteful delays in the defense program. This soft impeachment he can verify by glancing at any number of studies and reports which give specific examples of waste and inefficiency.

He will also find that previous efforts toward economy are often sabotaged or at least put in the worst possible light by those services, bureaus or agencies that would feel the effect.

President Eisenhower has told the nation that he is studying the problem of defense reorganization and

will make recommendations. "The first need is to assure ourselves that military organization facilitates rather than hinders the functioning of the military establishment in maintaining the security of the nation," he said.

This being the admitted first need, a logical approach would be to meet it first—before concluding that the second need is for \$39.8 billion. Elimination of extravagance should make possible a considerable reduction of that amount, with a better defense resulting.

Further, if such conditions exist in Defense which, because it is vital, draws more than its share of informed appraisal, it is not unreasonable to suppose that extravagance also obtains in other agencies which are subject to more casual scrutiny.

Many of these agencies—accounting for an estimated 12 per cent of federal expenditures—are in the President's own executive branch of the government. One wonders if the President has considered the possibility that they, too, could increase their efficiency. Recommendations such as he has promised for Defense could be useful elsewhere.

Even without such recommendations, Congress, through its appropriation power, can enforce efficiency—or at least less costly inefficiency—in the executive agencies as well as in all others.

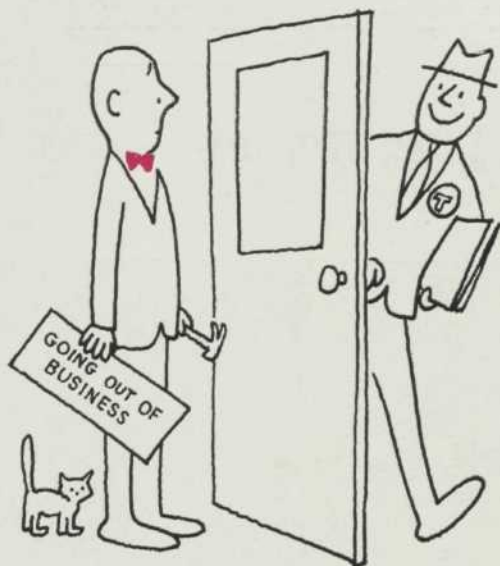
At a time when the national economy's need for tax revision is obvious and the expectation that present rates will bring in \$74.4 billion is at least optimistic, Congress will need to put first things first, no matter in what order they arrive before it.

The President has stated the first need in defense. It is also the first need everywhere.



1.

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By larger firms with benefits to soothe employee tensions—
Group life and health insurance, major medical, and pensions.



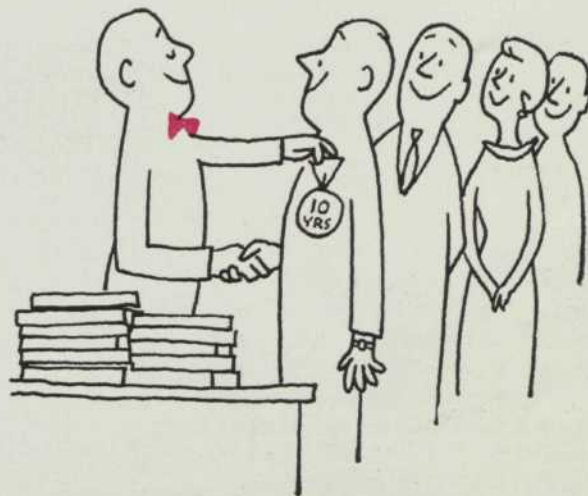
2.

Poor Jim—his dreams lay broken. Was he doomed to dark defeat?
How could he ever hope to have a group plan to compete?
"I might as well throw in the sponge," our hero sadly moaned.
A Travelers man arrived in time. "I'll help you," he intoned.



3.

"Now firms with ten* to twenty-four employees can award
The benefits that up to now just big firms could afford.
Group Life and Major Medical Insurance—Pensions, too—
Can all be part and parcel of a Travelers plan for you."



4.

Jim's fretful frown became a smile—he bought The Travelers plan
And since that day his company has never lost a man.
If you have workers numbering from ten to twenty-four
The Travelers has a plan for you with benefits galore.

**Minimum of fifteen employees required in Florida.*



THE TRAVELERS

INSURANCE COMPANIES, HARTFORD 15, CONNECTICUT

All forms of business and personal insurance including Life • Accident • Group • Fire • Marine • Automobile • Casualty • Bonds

The McNallys *speed it in writing with telegrams*



**They map sales
—with wires**

"Rand McNally is spread out all over the map," says Andrew McNally III (right), President, shown with his brother Fred McNally, Vice President. "My office is in Chicago, where our maps and books are published. But our other sales offices and plants are scattered across the country—with the important Eastern headquarters in New York. Naturally, the telegram is a vital link for us. With telegrams, we can exchange sales information, prices and shipping data almost instantly. Most important, we have a permanent record in writing."

For getting your business done fast, and getting it in writing, there's nothing like the telegram.